

# Locational issues in new apprenticeships

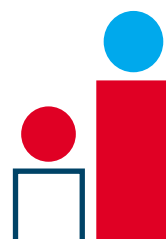
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AUSTRALIAN



apprenticeships

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# Executive summary

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## Introduction

Total apprenticeship<sup>1</sup> commencements in Australia have grown strongly over the last four years, largely through the increase in apprenticeships of less than one year's duration. This increase in commencements has not been evenly distributed across Australia. Tasmania, South Australia, Queensland and Victoria all recorded well-above-average growth, while NSW and Western Australia recorded well-below-average growth.

## Focus and methodology of study

The key questions addressed in this study are:

- ❖ Do geographical mismatches in the supply of potential apprentices and the demand for them partly explain the co-existence of continuing high levels of youth unemployment and unfilled vacancies for apprentices?
- ❖ Do factors other than the labour market explain some of the differences between the States and Territories in the growth rates of New Apprenticeship commencements?
- ❖ What policy options exist to overcome any such regional mismatches?

This study examines the geographical distribution of apprenticeship commencements in the context of various labour force and population statistics by industry, location of jobs by industry and youth population. Apprenticeship and traineeship statistics between 1995 and 1998 are examined to demonstrate differences in the development of the system between the States and Territories over recent years. Characteristics of apprenticeships are examined, including occupational groupings, apprenticeship duration, full-time/part-time basis, and Australian Qualifications Framework (AQF) qualification. Interviews were also conducted with officers of State training agencies, group training companies, industry training advisory bodies (ITABs), area consultative committees, industry bodies and some key employers.

Apprenticeship commencements in Australia in 1998–99 were distributed very unevenly on a geographic basis. Using the indicator of apprenticeship commencements to total employment, there are both substantial differences between States and Territories and between smaller geographic units within States and Territories. Reasons for these variations seem to be related to both labour market differences and policy differences. The researchers believe that the regional differences described are substantial and significant in policy terms.

Policy differences appear to have caused some degree of variation in the growth of New Apprenticeships between the States and Territories. As a general observation it appears that New Apprenticeships are achieving a poor market penetration in areas where the labour market, especially for young people, is strong.

One irony, noted by Queensland (DETIR 2000) in its submission to the Senate Committee Inquiry into the Quality of Vocational Education and Training in Australia, is that the apprenticeship system, largely through policy differences, now varies more across the States and Territories than it did before the introduction of New Apprenticeships.

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<sup>1</sup> Throughout this report the term 'apprenticeships' is used to refer to New Apprenticeships, the apprenticeship system established in 1998 and which covers traditional apprenticeships and what were known as traineeships.

## Apprenticeship commencements

This analysis also reveals marked differences in the use of part-time apprenticeships between the States and Territories.

In terms of labour market differences, across Australia in 1998–99 there was on average one apprenticeship commencement for every 38 jobs.<sup>2</sup> Sydney and Perth recorded the lowest ratios of apprenticeship commencements to total jobs. In most of the other main metropolitan areas there was one apprenticeship commencement for about every 30–40 jobs.

Wide variations also occurred within some metropolitan areas. . The following table shows the wide range of ratios that exist in selected areas across Australia in the ratio of apprenticeship commencements to total jobs.

**Table 1: Apprenticeship commencements to total employment, selected areas, 1998–99**

Area	Total number of jobs for every apprenticeship commencement
Central Perth	455
Inner Sydney	325
Inner Melbourne	187
<b>Whole of Australia</b>	<b>38</b>
Northern Adelaide	18
Rural Tasmania	14

Source: NCVER unpublished Apprenticeship and Traineeship statistics; ABS Integrated Register of Businesses as at September 1998

In non-metropolitan areas, commencements to jobs ratios were higher than in metropolitan areas. The non-metropolitan areas of NSW and Western Australia recorded lower commencements to jobs ratios than the other jurisdictions.

At the State/Territory level the findings do not necessarily support the initial proposition that the introduction of New Apprenticeships might favour those regions where jobs are more plentiful. Using another ratio, commencements to 15–24-year-old unemployed, those States with the strongest labour markets in 1998–99, New South Wales and Western Australia, recorded the lowest ratios of commencements to young unemployed. In other words, in stronger labour markets young unemployed people appear less likely to enter an apprenticeship. Conversely, those States with the weakest labour markets for young people, Tasmania and South Australia, recorded strong growth in apprenticeship commencements. Moreover, in New South Wales and Western Australia it appears that a lower proportion of unemployed young people are 'converted' into apprentices. One reason for this might be that in those stronger labour markets, the more marginalised unemployed young people are relatively less likely to have the educational and personal attributes sought by the employers of apprentices.

## New Apprenticeships and quality of training

Within metropolitan areas across Australia there was generally a geographical mismatch between the location of jobs and the residential location of the young unemployed. In Sydney the divide is generally an east/west split, while in the other large metropolitan areas the picture is generally one of jobs being concentrated in inner regions and young unemployed in outlying regions. Policies aimed at assisting travel to work within metropolitan areas and in helping young people from non-metropolitan areas to find accommodation in metropolitan areas might assist in filling vacancies for apprentices in metropolitan regions.

There is some evidence that the rapid growth in numbers in some jurisdictions might be associated with a loss in training quality (for example, Schofield 1999a). Several industry contacts cited known examples of poor quality of supervision of training and the exploitation of apprentices. The examples quoted were referred to as traineeships by all the contacts. They

<sup>2</sup> 'Jobs' refers to the total number of persons employed and working within a specific geographical location. Data for this measure are from the ABS Integrated register of businesses.

offered instances of apprentices being required to work unpaid hours and some, in wholly on-the-job apprenticeships, receiving inadequate instruction.

Moreover, many industry contacts noted that an outdated image of apprenticeships still exists. They believe that inadequate information is provided to young people about the nature of employment as an apprentice. Marshman (1998) found that many employers in manufacturing were unable to recruit apprentices, partly as a result of the poor image the industry has for job stability and working conditions. Marshman advocated specific marketing campaigns directed at the media, teachers, students and individual employers to improve the image of manufacturing and to facilitate their recruitment of apprentices.

## New Apprenticeships and employers

While there is some evidence that a lack of quality and a lower income might deter some young people from entering apprenticeships, it is also clear that many employers, including group training companies, believe many applicants for apprenticeship positions lack adequate vocational preparation and a positive attitude to further workplace learning. Research by several Commonwealth agencies (DEWRSB 1998; DEETYA 1998) indicated that only about one in four applicants for apprenticeship positions was judged suitable by the employer.

Outside metropolitan areas few contacts reported difficulties in recruiting apprentices, with some identifying a lack of demand from employers as the main barrier to further expansion of the program. This analysis has identified some specific regions of Australia where there appears to be both an unusually low level of apprenticeship commencements and a relatively high rate of unemployment among the 15–24-year-old age group. These are areas where specific regional initiatives might be targeted towards employers to increase equitable access to apprenticeships on a regional basis.

Five regions across Australia were identified as having both relatively low per capita apprenticeship commencements and an apparently plentiful supply of young unemployed. These areas were Barwon–Western District in Victoria, Richmond–Tweed and Mid-North Coast of NSW, the Hunter region around Newcastle in NSW, the Perth metropolitan area and the Lower Western region in Western Australia. These areas appear prime targets for specific regional initiatives in New Apprenticeships.

Two other regions, Darling Downs/South West Queensland and Illawarra/South Eastern NSW, appear to be regions that, despite having relatively high apprenticeship commencements, also have remaining substantial pools of young unemployed and could also be suitable areas for specific targeting.

## Policy options

Given the problems identified in regard to quality (Schofield 1999a), it is not clear that *simply* aiming to increase apprentice numbers of itself is a desirable aim. It is clear however, that there are geographical regions where apprenticeship opportunities are scarce and there is likely to be a ready supply of suitable applicants.

It is also clear that in some metropolitan regions, especially the CBDs of Sydney and Perth, apprenticeships are only being established in very small numbers relative to total employment in those areas. Of concern is that the businesses found in these areas are more likely to be in the expanding 'new economy' activities of information technology and communications, and other business services. These are sectors where skill shortages are already apparent and are obviously sectors which are likely to offer future prospects. Hence, while there is no industry analysis of apprenticeship commencements undertaken in this study (because of shortcomings in the apprenticeship data collection), it appears likely that industry differences in apprenticeship generation are significant and need to be addressed.

While apprenticeship commencements appear to be more supply-driven than demand-driven, there are parts of the metropolitan areas where young people are much less likely to commence an apprenticeship. These appear to be areas of higher educational attainment and higher socio-economic status and they tend to be areas where labour markets are strongest and 'new economy' industries are emerging.

It seems likely that one factor that militates against apprenticeship commencements in these regions is the popular image associated with the word apprenticeship; that is, one of dirty jobs in often unpleasant working conditions. While this is far from the reality, the image, according to industry contacts, is widely held. Marketing of New Apprenticeships needs to reinforce the message that, in the words of one brochure (Manufacturing Learning Australia, undated) 'the hard labour has been engineered out of modern workplaces'.

## Policy-driven initiatives

From this analysis there would appear to be at least three areas where policy initiatives should be considered.

- ❖ *Specific regional initiatives in areas where demand for apprentices is particularly low relative to the local youth population and where youth unemployment levels are relatively high: this might involve specific support for group training companies and area consultative committees operating in these regions, relocation and accommodation support for young residents of these areas, or additional financial support for employers. Policy initiatives along these lines could form part of the existing Regional Assistance Program. In 1999–2000 \$40.8 million was provided in the Federal Budget under this program which in part is aimed at 'generating employment, creating small business opportunities and building the skills base of regions' (Anderson 1999).*

This approach is supported by the Senate committee inquiry into regional employment as quoted by the Queensland Chamber of Commerce and Industry<sup>3</sup>. It noted (p.14) that:

*Whereas once many businesses had a sense of social or community responsibility to train apprentices, that is now being overshadowed by the national competition policy and increasing pressures to be globally competitive. (QCCI 2000, p.14)*

The Committee went on to propose that:

*In regions of high unemployment where there are, or will be, skills shortages, priority funding could be given to vocational training to expose young people to occupations in demand and to give them some grounding and experience in those occupations... Such an approach will also be beneficial in encouraging young people to remain in regional localities rather than heading to the city to find employment. The Commonwealth should seek to facilitate these local initiatives wherever possible. (QCCI 2000, p.14)*

Given that apprenticeship commencements with government employers have declined more sharply than in other sectors it might be worth considering ways in which governments could, in some instances, act as a direct employer of apprentices in those areas identified as particularly disadvantaged in the provision of apprenticeship opportunities.

- ❖ *Initiatives targetted at emerging 'new economy' industries in metropolitan CBDs that do not appear to be involved significantly in the apprenticeship system: for policies to be effective in this area related initiatives would be required both to encourage young people in higher socio-economic areas to enter apprenticeships in these fields and also initiatives to encourage young people from outside these regions to take up ensuing opportunities. Fundamental to the success of this initiative would be complementary promotional programs aimed at dispelling the widespread misconceptions about the nature of apprenticeships and the career options that follow.*

Equally important however, would be programs to ensure that quality training is being universally delivered and that apprentices are treated fairly in the workplace. On the other side of the ledger it also seems clear that many young people lack adequate educational preparation for apprenticeships.

- ❖ *Marketing initiatives aimed at depicting the nature of working conditions in New Apprenticeships, highlighting the changed nature of the working environment for most New Apprentices: such a campaign would logically be targetted at metropolitan regions where constraints on the supply of potential apprentices are most apparent.*

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<sup>3</sup> The citation for this report is Senate Employment, Workplace Relation, Small Business and Education Reference Committee (SEWRSBERC) 1999, Jobs for the regions: A report on the inquiry into regional employment and unemployment, Canberra.

# Background and methodology

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'New Apprenticeships' officially became the title of the training system that had previously been known popularly as apprenticeships and traineeships from the beginning of 1998. According to the Federal Government, the New Apprenticeships program aims to make 'training, especially at the entry level, a more attractive business proposition for a much wider range of enterprises. This will expand employment and career opportunities, especially for young people, and increase the international competitiveness of Australian enterprises through enhancing workforce skills'.

Among the principles underlying New Apprenticeships agreed to by the Australian National Training Authority (ANTA) Ministerial Council are that New Apprenticeships should provide expanded training opportunities and that they should embody regional and community involvement. Access and equity are also important underlying principles.

When the program was introduced in the Federal Government's 1996 Budget program funding was provided through the abolition or substantial reduction of a range of labour market programs that had been developed by the previous Federal Government, largely under their 'Working Nation' initiatives. While it is clear from National Centre for Vocational Education and Training (NCVER) statistics that the objective of increasing training opportunities through structured training has been met, with substantial increases in what were traineeships, there are issues related to the employment-based nature of New Apprenticeships that warrant investigation.

The labour market programs, whose abolition funded the New Apprenticeship initiatives, were targeted primarily at individual unemployed persons. As a result, program funding tended to be greater in geographic areas of higher unemployment where there were fewer employment opportunities. The principal researcher on this project (Tom Dumbrell) undertook a study (unpublished) for the Kirby Inquiry into Labour Market Programs in 1984 (Committee of Inquiry into Labour market Programs 1995) which analysed the distribution of certain labour market programs then in existence in relation to the target group of unemployed persons. That study showed that even those programs targeted at the unemployed can have inequitable regional consequences unless careful monitoring and intervention is undertaken. That study found that some geographical areas with high unemployment rates received relatively low levels of labour market program funding per unemployed person.

The shift from labour market programs targeted at disadvantaged individuals to New Apprenticeships has the capacity to introduce a systemic disadvantage on a geographical basis. This is because New Apprenticeships require the existence of an employment opportunity with a specific employer or with a group training scheme. However, employment in Australia is not distributed evenly on a geographic basis and there are also major industry differences on a geographic basis.

There has been concern expressed, particularly by some employer bodies, that young unemployed people are not showing sufficient enthusiasm to take up New Apprenticeship opportunities. In August 1997 the Federal Minister, Dr Kemp, stated in a press release that 20% of apprenticeship and traineeship positions could not be filled. This study aims to determine whether a geographic mismatch between supply and demand is contributing to this situation, and hence whether new policies could be developed to increase further the number of New Apprenticeships and also to overcome any regional mismatches in supply and demand. One national indicator of the mismatch in labour supply and demand among young people might be that in November 1998 there were about 81 600 young unemployed in Australia aged 15–19 who were not at school.

Consultations conducted as part of this research project and described later in this paper have confirmed that, in some parts of Australia, vacancies for apprentices remain unfilled, while elsewhere insufficient vacancies exist to meet the needs of local job seekers.

## Methodology

The key questions addressed in this study are:

- ❖ Do geographical mismatches in the supply of potential apprentices and the demand for them partly explain the coexistence of continuing high levels of youth unemployment and unfilled vacancies for apprentices?
- ❖ Do factors other than the labour market explain some of the differences between the States and Territories in the growth rates of New Apprenticeship commencements?
- ❖ What policy options exist to overcome any such regional mismatches?

This study analyses NCVET data on New Apprenticeship commencement trends for the period 1995–96 to 1998–99 by location (on a national basis) and compares this distribution with the distribution of both unemployed 15–24-year-olds and with total employment. Apprenticeship and traineeship statistics for the three financial years preceding 1998–99 are examined to demonstrate differences in the development of the system between the States and Territories over recent years. Commencements in New Apprenticeships are compared with Australian Bureau of Statistics (ABS) data from the monthly Labour force survey for unemployed by broad age groups. Data from the ABS Integrated register of businesses and the 1996 Census are also analysed to show the geographical distribution of employment and unemployment by statistical division and industry division.

The second stage of the study has involved a more extensive examination of published research relevant to the preliminary findings, further analysis of data and discussions with officers of state training agencies, group training companies, industry training advisory bodies (ITABs), area consultative committees, industry bodies and some key employers. The questions used in interviewing group training companies are provided in appendix 4. Similar questions, suitably modified, were used in the interviews with area consultative committees, industry bodies and employers. The issue of unfilled vacancies was addressed in discussions with these bodies.

The researchers experienced some difficulties in achieving the number of interviews planned. Many phone calls were made to arrange interviews without success, many contacts failed to return phone calls and some contacts were unable to provide useful comments. Peak industry bodies were able to provide valuable information on their members' experience with New Apprenticeships and group training companies were also very valuable sources of information on regional differences in apprentice recruitment.

The purpose of this study is focussed on policy development to enhance the New Apprenticeships program. The policy options presented in the report are based on the analysis of data and the consultations undertaken.

# Introduction

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Between 1995–96 and 1998–99 the number of apprenticeship commencements in Australia grew significantly, almost trebling in number over that short period. (Throughout this report the term ‘apprenticeships’ incorporates traineeships unless otherwise specified.)

In 1995–96 almost 65 000 persons began an apprenticeship. By 1998–99 this number had grown to more than 189 000. However, this growth was not distributed uniformly at the State/Territory level. Percentage growth over the period varied between more than 300% in Tasmania to just 33% in the Northern Territory and 62% in NSW. Queensland and South Australia recorded growth of more than 200%, Victoria about 180% while Western Australia was closer to NSW, with growth of about 80%.

Such variations in growth lead to several conjectures:

- ❖ If some States can achieve growth of more than 200%, how many more apprenticeship commencements could have been achieved if all States and Territories had achieved these results?
- ❖ Has the high growth occurred at the expense of quality?
- ❖ What differences between the jurisdictions have contributed to these markedly different outcomes?
- ❖ Can and should adjustments be made to current policies to increase apprenticeship commencements?

Also, growth over the period was not distributed uniformly on an occupational basis. Most of the growth, nearly 60%, occurred in intermediate and elementary level clerical, sales and service occupations. This result is not surprising and reflects both the changing composition of the Australian labour market and the successful policy outcome of extending structured training to a wider section of the Australian workforce.

Growth also varied between and within the States and Territories on a number of other dimensions including part-time/full-time apprenticeships, expected duration of the apprenticeship and the AQF qualification of the apprenticeship. While this study focusses on geographical differences in the supply of and demand for apprentices, these other variations are important in understanding the factors that have contributed to variations in growth on a geographical basis.

## Regional differences

These variations in growth rates have contributed to apparent differences in access to apprenticeships between and within States and Territories. A number of ratios are examined in this paper, comparing apprenticeship commencements to the 15–24 age group population, the 15–24 age group unemployment rate, and total employment by the location of jobs. All these ratios indicate substantial differences between regions across Australia in the local availability of apprenticeship opportunities.

One useful indicator is the ratio of apprenticeship commencements to total employment. In this case total employment is as shown in the ABS Integrated register of businesses. This collection shows the physical location of employment; that is, where the job was located. This distinguishes it from data collected in the ABS Labour force survey that shows the residential location of the employed work force.

Using this indicator some marked differences in the availability of apprenticeships are apparent. Generally, using this measure, apprenticeships are less common in metropolitan

areas. In Sydney and Perth in 1998–99 there was less than one apprenticeship commencement for every 70 jobs. In the other State capitals there was one apprenticeship commencement for about every 30 to 40 jobs.

Non-metropolitan areas tended to have relatively greater access to apprenticeships, although non-metropolitan NSW and Western Australia tended to reflect their capital cities' lower availability. In non-metropolitan areas of Victoria, Queensland and South Australia there was one apprenticeship commencement to between every 13 to 30 jobs.

One implication of this finding is that apprenticeships appear to be *relatively* more common in areas with more limited employment opportunities generally and higher unemployment rates. In other words it appears that apprenticeships are to some extent functioning as labour market programs, one of the objectives of traineeships as originally conceived in 1985. This in turn suggests that training wages could be a deterrent to young people taking up apprenticeships in areas of higher labour market demand, where better paid employment options exist.

Nevertheless, the analysis also indicates that there are a number of regions in Australia where there is an oversupply of young unemployed people and relatively low ratios of local jobs to apprenticeships. It also shows that there are some regions where filling of apprenticeships with suitable applicants is difficult.

In Sydney and Perth in 1998–99 there was less than one apprenticeship commencement for every 70 jobs. In the other State capitals there was one apprenticeship commencement for about every 30 to 40 jobs.

## Policy differences

Schofield (1999a) notes an important policy development that occurred in relation to New Apprenticeships in 1997:

*In May 1997 Ministers agreed that a New Apprentice would be defined as a person who:*

- ❖ *is a signatory to a training agreement*
- ❖ *is involved in paid work and structured training and*
- ❖ *is undertaking a negotiated training program.*

*At that time, it was agreed that funding by both the Commonwealth and the States would be linked to the above definition of a New Apprentice, rather than being linked to specific training programs. It was agreed that access to public funds for New Apprenticeships would be available to those individuals... 'not currently or previously having continuing full time employment in the enterprise in which the training will take place, or being an out-of-trade apprentice/trainee'<sup>4</sup>. At the same time, it was agreed that States, at their discretion, could fund 'off-the-job' training for existing workers, and it was noted that the Commonwealth would not provide employer incentives in those instances. (Schofield 1999a)*

At the same meeting it was agreed that 'States and Territories, at their discretion, could fund off-the-job training for existing workers. It was also noted that the Commonwealth would not provide employer incentives in those instances' (DETIR 2000). It seems likely that the extension of traineeships to include existing workers has contributed to the differential growth rates on a jurisdictional basis. In Queensland at least the number of older worker trainees and the proportion of older workers among trainees increased substantially. By 1998–99 young people under 24 years of age comprised only 51% of all trainees in Queensland (DETIR 2000). Queensland now believes that this policy was inappropriate as employers were 'using the traineeship system to displace or supplement heavily their own training effort' (DETIR 2000). The other States that have shown the strongest growth in apprentice numbers had adopted similar policies to Queensland.

On the other hand, New South Wales and Western Australia, where apprenticeship growth rates have been lowest, did not immediately accept existing worker traineeships, although

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<sup>4</sup> Quote from Minutes of the ANTA Ministerial Council, May 1997.

NSW decided in May 1999, after lengthy consultations with the NSW Labour Council, to register such trainees. Anecdotal evidence from NSW apprenticeship authorities indicates that, between May 1999 and January 2000, about 10 000 existing worker traineeships have been approved. NSW does not make available any state-based allowances or concessions however to existing worker trainees. At almost the same time that NSW extended approval to existing worker traineeships the Commonwealth restricted eligibility.

Victoria removed government funding for existing worker traineeships in October 1998 and removed Workcover and payroll tax exemptions in December of that year.

The Queensland Department of Employment, Training and Industrial Relations submission to the Senate Committee inquiry into the quality of vocational education and training in Australia concluded that,

*It is regrettable that notwithstanding the considerable work that went into achieving the national policy on funding to ensure the maximum degree of consistency in this area, in practice the level of inconsistency between the Commonwealth and the states, and between the states themselves, is greater than when the policy was established. (DETIR 2000)*

While it seems likely that policy differences between the States and Territories in relation to existing worker traineeships have contributed to differences in the rate of growth of apprenticeships, it does not seem likely that this is the whole explanation. Another innovation associated with New Apprenticeships has been the introduction of part-time apprenticeships. Again the distribution of part-time apprenticeships between the States is not uniform.

In 1998–99 five jurisdictions reported that more than 20% of their apprenticeship commencements were not full-time. On the other hand, the three other jurisdictions, NSW, South Australia and the Northern Territory, recorded fewer than 11% of non-full-time apprenticeships.

This variation between full-time and part-time apprenticeship numbers in turn confuses data collected on the expected duration of apprenticeships. Part-time apprenticeships will naturally be expected to be of a longer duration than their full-time equivalent. In all States and Territories apprenticeships of up to one year's duration represented at least 50% of annual commencements. In the Australian Capital Territory, Tasmania and Queensland one year apprenticeships accounted for about two-thirds of all commencements in 1998–99.

This paper first reviews the youth labour market across Australia, considers the relationship between apprenticeship commencements and several labour market indicators, and then examines regional issues in the distribution of apprenticeship commencements.

# The labour market for 15–24-year-olds

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About 70% of all the jobs in Australia are located in the nation's eight metropolitan areas of Sydney, Melbourne, Brisbane Adelaide, Perth, Hobart, Darwin and Canberra. However, less than 64% of the nation's population lives in these metropolitan areas, indicating an imbalance between the distribution of employment opportunities and workers and potential workers.

In May 1999 there were about 869 000 employed males and 788 200 employed females aged 15–24 in Australia. At the same time there were 143 800 unemployed males and 122 900 unemployed females in this age group. Young people are at a labour market disadvantage when measured in broad terms. In May 1999 the male 15–24 age group unemployment rate nationally was 14.2% and the female rate was 13.5%. These rates were roughly double the national rate for all males (7.5%) and all females (7.2%).

Curtain (1999) identifies a broader group of the youth population, beyond those classified as unemployed, who are at risk in the labour market; that is, those aged 15–19 who are neither in full-time education nor in full-time employment. He shows that this group has comprised around 15% of the Australian teenage population since the late 1980s. He also estimates that, using conservative criteria, almost 20% of 'young adults' (20–24-year-olds) are 'at risk' in the labour market.

Looking at the whole 15–24-year-age group Curtain develops a performance indicator to compare the labour market situation of this age group with other OECD countries. The indicator he uses is the ratio of the unemployment rate of 15–24-year-olds to the unemployment rate for the 25–54 age group. On this basis he finds Australia to rank equal seventh out of 19 OECD countries with a ratio of 2.4, the same as Japan and New Zealand. The countries providing the best chances of employment for young people on the basis of this indicator (with ratios of less than 2.0) are Germany, Switzerland, Austria, Denmark and the Netherlands—'all countries with well-structured and comprehensive arrangements to ensure that the education to work transition is smooth' (Curtain).

ABS data (ABS 1998b) shows that in May 1998 there were in Australia 39 200 persons aged 15–19 and 87 700 aged 20–24 neither employed (neither full-time nor part-time) nor attending any recognised study, representing nearly 5% of the population aged 15–24. ABS Labour force data (1999a) shows that in May 1999 there were 87 900 young persons aged 15–19 who were unemployed and not attending school.

Following Dr Kemp's assertion that 20% of apprenticeship positions could not be filled—a figure that would translate in 1998–99 to more than 30 000 positions—there would be more than four persons aged 15–24 neither working nor studying for each unfilled apprenticeship across Australia.

## Differences between States and Territories

There are some gross differences apparent in broad employment prospects for young people between the States and Territories. Using the blunt instrument of employment to unemployment ratios by gender within each jurisdiction the following picture emerges.

In the table below a numerically low ratio in the final column indicates relatively poorer employment prospects. Hence South Australia, with fewer than five young employed to unemployed can be seen, for example, to present overall poorer employment prospects than New South Wales or Western Australia which both recorded ratios of better than six employed to unemployed. Tasmania scores the lowest and hence the poorest ratios, especially for males, with fewer than four young employed males to every young unemployed male.

**Table 2: 15–24-year-old employed and unemployed, States and Territories**

		Year averages 1998–99, by gender ('000s)		
State		Employed 15–24	Unemployed 15–24	Ratio emp:unemp
NSW	Males	249.0	37.8	6.6
	Females	242.4	34.4	7.0
VIC	Males	205.1	35.5	5.8
	Females	190.9	30.6	6.2
QLD	Males	181.5	35.0	5.2
	Females	162.1	30.4	5.3
SA	Males	60.1	13.9	4.3
	Females	53.8	10.9	4.9
WA	Males	88.5	14.5	6.1
	Females	83.2	11.9	7.0
TAS	Males	18.5	5.0	3.7
	Females	16.0	3.5	4.5
NT	Males	9.4	1.2	8.0
	Females	8.6	0.6	15.0
ACT	Males	14.9	3.0	5.0
	Females	16.0	2.1	7.5

Source: ABS Labour Force Survey (August 1998, November 1998, February 1999, May 1999)

From the above table the average ratio of employed to unemployed is about 6.4:1. Using this indicator Victoria, Queensland, South Australia and Tasmania all recorded male and female ratios above the national average, and Western Australia and the ACT recorded above average ratios for males. Tasmania and South Australia stand out on this measure as having the poorest employed:unemployed ratios.

## Metropolitan and non-metropolitan labour markets

Across Australia there are some important inequalities between metropolitan and non-metropolitan labour markets for young people, reflecting the less than equal distribution of employment geographically. ('Metropolitan' is used in its traditional sense to refer to the capital city in each State.)

Looking at the aggregated labour markets in 1998–99 in the six States only, employment prospects for both males and females aged 15–24 are generally better in metropolitan areas than in non-metropolitan areas.

Across the six States' metropolitan areas there are more than six employed males to each unemployed male. In non-metropolitan areas there are fewer than five employed to unemployed. For females the division is more marked, with more than seven employed females to each unemployed in the metropolitan areas compared with less than five employed to each unemployed in non-metropolitan areas. This is a rather crude measure as it ignores variations in participation rates and possible demographic differences, but nevertheless it is illustrative of the divide.

... employment prospects for both males and females aged 15–24 are generally better in metropolitan areas than in non-metropolitan areas.

However, this metropolitan/non-metropolitan divide is not uniform across Australia. It is most marked in NSW and Victoria (especially for females) but only apparent for females in South Australia and males in Western Australia. The divide does not appear in the less centrally urbanised Queensland or Tasmania.

## Differences within metropolitan areas

Within the larger metropolitan areas of Australia there are also marked labour market differences. These differences appear to reflect both an uneven distribution of employment within metropolitan areas and socio-economic differences in education levels of the resident population (for example, see Freeland 1995). Given the physical size of the major metropolitan areas in Australia and the travelling times often required to traverse these areas it appears likely that mismatches between the location of potential workers and the location of jobs could contribute to unsatisfied demand for New Apprentices. Continuing inability to access training programs such as the New Apprenticeship system is likely to contribute to continuing high levels of unemployment among young people in these regions. Le and Miller (1999), in analysing the ABS's survey of employment and unemployment patterns, note that unemployment rates are higher for those who fail to complete the highest level of secondary school. They note a number of studies in Australia that have identified a strong inverse relationship between the incidence of unemployment and educational attainment and conclude that 'substantial reductions in the chances of being unemployed are also associated with possession of a qualification'.

The variation in youth unemployment rates within metropolitan areas is very pronounced. In May 1999 unemployment rates for persons aged 15–24 within the Sydney statistical division ranged from a low of 2.6% in Lower Northern Sydney to 18.5% in the Fairfield–Liverpool–Outer South West region. Such differences have persisted in the NSW labour market for many years. ABS population census and Integrated business register data show that, while Sydney's young population is roughly divided 50:50 between Sydney's east and west, total jobs by location are divided roughly 60:40 in favour of the eastern half. Moreover, about 66% of Sydney's young unemployed live in the western half of Sydney. (The Gosford–Wyong commuting zone on the Central Coast is here included in Western Sydney.) The eastern half of Sydney accounts for just 17% of the State's young unemployed but is host to 43% of the State's total jobs.

The variation in youth unemployment rates within metropolitan areas is very pronounced.

In Melbourne the 15–24 age group's unemployment rates in May 1999 varied between 9.6% in Inner Melbourne to 18.9% on the Mornington Peninsula. For males in Western Melbourne unemployment rates averaged over 17% over 1998–99.

Melbourne, like Sydney, reflects a pattern of uneven employment distribution, with almost 55% of its total employment located in the three inner regions of Inner Melbourne, Inner Eastern Melbourne and Southern Melbourne. By contrast these regions account for just 36% of the 15–24 age group population. Hence the young people in outlying regions, both to the west and the south-east, have fewer local employment opportunities and higher unemployment rates. The Outer Western Melbourne region appears to be the only labour market region in any Australian metropolitan area where the local 15–24 age group population actually exceeds the total number of local jobs.

In Brisbane the Brisbane Inner Ring suburbs recorded the lowest unemployment rate of 8.5% while the highest rate of 22.5% was recorded in the North and West Brisbane region. There are three labour market regions in Brisbane, Brisbane City (made up of an Inner Ring and an Outer Ring), North and West Brisbane, and South and East Brisbane. The North and West and South and East regions form a rough semi-circle around the Brisbane City region. As in Melbourne, jobs are concentrated in the inner, Brisbane City part where the ratio of the 15–24-year-old population to total jobs is about 1:3.3. In the two outer regions this ratio is only about 1:1.5, indicating the greater scarcity of jobs outside the inner part of the metropolitan area.

Adelaide's unemployment rates for the 15–24-year-olds ranged from 14% in Eastern Adelaide to 22.3% in Northern Adelaide. Comparing ABS integrated business register total employment with 15–24 age group populations revealed a marked disparity within Adelaide in access to employment for young people. In Northern Adelaide the high unemployment rate is related to a poor ratio of only 1.6 jobs for every 15–24-year-old. In Eastern Adelaide there are almost five jobs to each person in this age group. Western Adelaide also provides better job prospects with 3.6 jobs to each 15–24-year-old. Southern Adelaide, like Northern Adelaide generally more remote from the CBD, recorded a poorer ratio of two jobs per 15–24-year-old.

In Perth the Central Metropolitan area recorded an unemployment rate of 19.3% while the Eastern Metropolitan area recorded 8.5%. This pattern is especially puzzling as the Central region also recorded more than nine local jobs to each 15–24-year-old in the local population.

## Differences in non-metropolitan areas

Just as there appear to be marked differences in labour market conditions for young people within Australia's main metropolitan areas, there are also marked variations between non-metropolitan areas within States. In NSW all non-metropolitan labour market regions recorded higher average unemployment rates during 1998–99 for both males and females in the 15–24 age group than in the Sydney metropolitan area. Within non-metropolitan NSW the Richmond–Tweed/Mid-north Coast region (covering the mid- and far north coast area of the State) recorded the highest unemployment rates for both males and females, with both rates around 25%. This was about seven percentage points above the rate for males and females in non-metropolitan NSW overall.

In Victoria the Loddon–Mallee region (embracing Bendigo and Swan Hill) recorded the highest unemployment rates for 15–24-year-old males and females. The unemployment rate there for males was about six percentage points above the non-metropolitan average. Several non-metropolitan regions of Victoria recorded relatively low male unemployment rates, (particularly the Goulburn–Ovens–Murray region that includes Shepparton, Wodonga and Wangaratta); however, female unemployment rates in non-metropolitan Victoria all exceeded the metropolitan rate.

In Queensland, again one region, North and West Moreton (roughly a semi-circle to the north and west of the Brisbane metropolitan area), stood out as recording well-above-average unemployment rates for both young males and females. The rate for males was about 24% and for females about 21%. These compared with non-metropolitan rates throughout Queensland of around 16%.

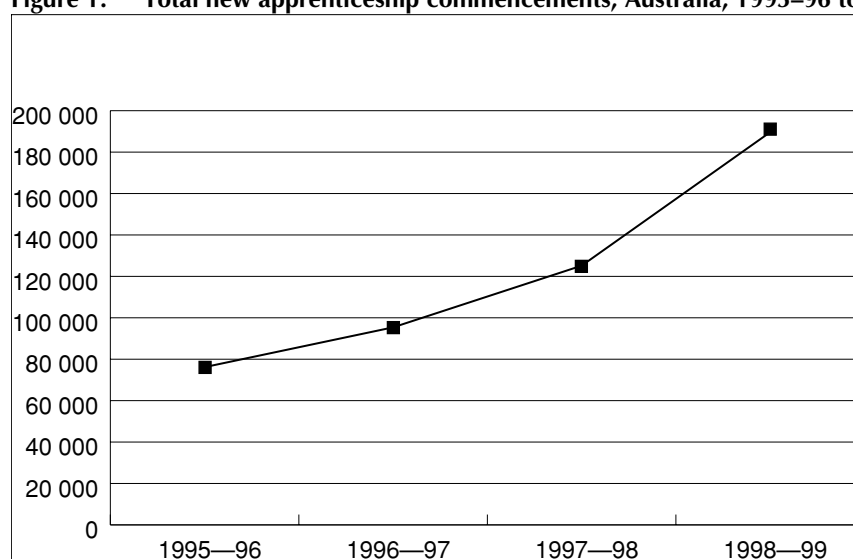
As each of the other States has only two non-metropolitan labour market regions (that is, in the ABS's labour force survey data) it is difficult to undertake a meaningful analysis of significant differences across their non-metropolitan regions. Nevertheless, in South Australia, Western Australia and Tasmania unemployment rates for young people in some non-metropolitan areas are noticeably higher than in the corresponding metropolitan area. Particularly apparent is the very high rate of almost 33% in Mersey–Lyell in Tasmania's north-west and almost 23% in South Australia's Northern and Western region. In Western Australia the unemployment rate in the Lower Western (14.7%) is the region with the State's third highest unemployment rate.

In NSW all non-metropolitan labour market regions recorded higher average unemployment rates during 1998–99 for both males and females in the 15–24 age group than in the Sydney metropolitan area.

# Trends in apprenticeships in Australia

Between 1995 and 1998 commencements in apprenticeships (including traineeships) grew at a compound annual rate of 27.5%, from just under 65 000 in 1995 to almost 134 000 in 1998. Numbers have continued to grow strongly since 1998, with more than 189 000 commencements in the 1998–99 financial year. The following chart shows commencements by financial year from 1995–96.

**Figure 1: Total new apprenticeship commencements, Australia, 1995–96 to 1998–99**



Source: NCVET unpublished Apprenticeship and Traineeship statistics

Numerically, most of this growth has occurred in intermediate clerical, sales and service occupations, those areas that previously would have mostly been classified as traineeships. Table 3 shows apprenticeship commencements for the major occupational groups in 1995–96 and 1998–99.

Growth in percentage terms has been dramatic in apprenticeships in the lesser skilled occupations. Between 1996 and 1999 apprenticeship commencements in the ASCO (Australian Standard Classification of Occupations) minor groups 81 to 99 (elementary clerical, sales and service workers, and labourers and related) rose by 434%, from 11 712 in 1996 to 62 521 in 1999. Growth by State/Territory by occupation is examined in the following section of this paper.

ABS data (ABS 1998a) shows a marked shift in the industry of employment of apprentices over the 1995 to 1998 period. The most pronounced shifts have been the reduction in the number of apprentices employed in manufacturing (down 23%) and a rise in the numbers employed in retail and wholesale (up 20%). When classified by employer type the only category to show both an absolute and proportional share in decline in apprentice commencements was the Commonwealth Government.

Between 1996 and 1999 apprenticeship commencements in the ASCO minor groups 81 to 99 (elementary clerical, sales and service workers, and labourers and related) rose by 434%,

**Table 3: Apprenticeship commencements by occupation group, 1995–96 and 1998–99, Australia**

Occupation group	Commencements 1995–96	Commencements 1998–99	% change
Managers and professionals	1791	3400	89.8
Associate professionals	2609	6874	163.5
Trades	39941	51059	27.8
Intermediate clerical, sales & service	18226	57770	217.0
Elementary clerical, sales & service	6064	38749	539.0
Cleaners, labourers, trades assistants	5648	23772	320.9

Source: NCVER unpublished Apprenticeship and Traineeship statistics

The number of traditional four-year trade apprenticeships in existence peaked in 1990 (at least for the period 1985 to 1998) at more than 160 000. Numbers of apprentices (that is not including trainees) in training declined over several years and levelled out to around 125 000 up to 1997. In 1990 traineeships numbered around 12 000. Their numbers fluctuated during the first half of the 1990s between about 9000 and 15 000 but escalated rapidly in 1996, rising from about 12 000 in 1995 to almost 30 000 in 1996.

Along with this rapid growth and compositional change in apprenticeships has been a pronounced change in the age of apprentices completing their course. In 1995 persons aged over 25 represented just 10% of total apprenticeship completions. By 1998 this age group comprised more than 25% of completions.

The growth in white collar traineeships, now subsumed under New Apprenticeships, has meant a growth in the number of females commencing apprenticeships. In 1995 females comprised 26.5% of apprentice and trainee commencements. By 1998 females made up over 40% of New Apprenticeship commencements. There is little evidence however that occupationally based gender segregation has declined within apprenticeships.

The growth in white collar traineeships, ... has meant a growth in the number of females commencing apprenticeships. In 1995 females comprised 26.5% of apprentice and trainee commencements. By 1998 females made up over 40% of New Apprenticeship commencements.

# Apprenticeships and the labour market

## Geographical distribution of apprenticeships

At the national level the most dramatic trend in apprenticeship numbers over the last 4 years has been the rapid growth in total commencements. Growth between 1995–96 and 1998–99 was about 149%, with growth in four jurisdictions substantially above this rate. The following table shows the number of commencements by jurisdiction over the last four financial years.

**Table 4: Apprenticeship commencements by jurisdiction, 1995–96 to 1998–99**

	1996	1997	1998	1999	% growth 1996–99
NSW	23 653	26 101	30 236	38 236	61.6
VIC	18 873	24 429	28 528	52 831	179.9
QLD	16 255	22 750	36 887	50 466	210.5
SA	5460	6843	11 119	20 002	266.3
WA	6572	8983	10886	11 769	79.1
TAS	2443	2768	3602	10 438	327.3
NT	1254	1589	1778	1673	33.4
ACT	1668	1923	2123	4202	151.9

Source: Apprenticeship commencements by jurisdiction, 1995–96 to 1998–99

It is clear that growth has been concentrated in percentage terms in Tasmania, South Australia, Queensland, the Australian Capital Territory and Victoria. Growth in New South Wales, Western Australia and the Northern Territory has been more subdued. The reasons for these differences in trends are examined later in this report.

One result of these differential growth rates is that apprenticeship commencements are no longer, at the State/Territory level, distributed roughly in line with population. The following table compares the percentage distribution of apprenticeship commencements in 1998–99 with the distribution of the 15–24 age group population.

At the State/Territory level therefore, there is clearly a maldistribution of apprenticeship commencements when compared with the population aged 15–24 which appears related to rapid growth of the system in some jurisdictions and perhaps to different labour market conditions. New South Wales and Western Australia stand out as having relatively low shares of total apprenticeship commencements compared with their share of the 15–24-year-old population.

The pool of young unemployed is also apparently not exploited for apprenticeships uniformly across Australia. Table 6 below shows the ratio of apprenticeship commencements in 1998–99 to 15–24 age group unemployed. It reveals that NSW and Western Australia appear to be ‘converting’ a lower proportion of their unemployed into apprentices than the other States and Territories. Again this finding is consistent with the results in tables 4 and 5.

At the State/Territory level there is a maldistribution of apprenticeship commencements when compared with the population aged 15–24. This appears to be related to rapid growth of the system in some jurisdictions and perhaps to different labour market conditions

**Table 5: Distribution of apprenticeship commencements and 15–24-year-old population, by State/Territory, 1998–99**

	Apprentices %	15–24 population %
NSW	20.2	32.3
VIC	27.9	24.3
QLD	26.6	20.6
SA	10.5	7.4
WA	6.2	10.0
TAS	5.5	2.4
NT	0.9	1.1
ACT	2.2	1.8

Source: NCVER unpublished Apprenticeship and Traineeship statistics;  
ABS Labour Force Survey (August 1998, November 1998, February 1999, May 1999)

**Table 6: Apprenticeship commencements and 15–24-year-old unemployed, by State/Territory**

	15–24 age group unemployed year averages (4 quarters: Aug 1998–May 1999)	Apprenticeship commencements 1998–99	Commencements/ unemployed
NSW	72 225	38 236	0.53
VIC	66 125	52 831	0.80
QLD	65 475	50 466	0.77
SA	24 825	20 002	0.81
WA	26 400	11 769	0.45
TAS	8600	10 438	1.21
NT	1750	1673	0.96
ACT	5125	4202	0.82
Australia	270 525	189 617	0.70

Source: NCVER unpublished Apprenticeship and Traineeship statistics;  
ABS Labour Force Survey (August 1998, November 1998, February 1999, May 1999)

This table shows that in New South Wales apprenticeship commencements represented about 53% of the year's average number of young unemployed, while in Victoria commencements represented about 80% of the year's average young unemployed. Western Australia recorded the lowest 'conversion' rate with 45%, while Tasmania recorded the highest figure of 121%.

There appears to be a wide variation in the capacity of the States to 'convert' young unemployed into apprentices. It appears that those States with the strongest labour markets 'convert' a lower proportion of their young unemployed into apprentices. Possibly this could be explained by the remaining young unemployed in those States being the most marginalised and more likely to be lacking the educational and personal qualities sought by employers of apprentices.

## Apprenticeship commencements and total employment

The Australian Bureau of Statistics divides Australia into 66 statistical divisions (SDs). These are shown in appendix 2. This research project has examined apprenticeship commencements over the last four years in those statistical divisions and has found that, as with the larger units of States and Territories, apprenticeships are not distributed in proportion to total employment (that is of persons of all ages) when examined at the statistical division level.

This analysis focusses on the ratio of apprenticeship commencements to total employment within those statistical divisions. While the industry structure will vary markedly between those areas, as will the general labour market conditions, it seems reasonable to start from the premise that New Apprenticeships should be available in all industry and geographical sectors and in roughly similar proportions. Certainly it would seem that one of the reasons for introducing New Apprenticeships, as was with its predecessor the Australian Traineeship System in 1985, was to extend the principle of structured training to all work environments, beyond those covered by traditional apprenticeships. This ratio provides a tool for comparing the capacity of regions across Australia to generate apprenticeship opportunities.

It is possible that there are some industry sectors where New Apprenticeships are only likely to be of marginal importance in developing skilled workers for those sectors. Therefore it would be unrealistic to assume that similar ratios of commencements to total employment would apply across the country. Nevertheless, the New Apprenticeships program aims to target a wide range of occupations below those requiring university-level qualifications and these occupations are distributed widely across all industry sectors. (Table A3-5 in appendix 3 shows employment by industry by occupation as at the 1996 census.)

Persons employed in trades, advanced, intermediate and elementary clerical sales and services, and intermediate production and transport occupations comprise more than 50% of the total employed workforce. Moreover, there are large segments of the existing workforce currently employed in skilled occupations who lack formal qualifications. (Table A3-4 in appendix 3 shows the proportion of workers in the 1996 census who possessed formal qualifications by industry group by occupational group.) There is therefore a substantial proportion of the workforce potentially a client of the New Apprenticeship system.

The most consistent finding appears to be that there are generally fewer apprenticeship commencements per employed persons in capital cities than in the rest of each State or Territory. In other words while the overall unemployment situation for young people in non-metropolitan areas is generally worse than in metropolitan areas, there is a relatively greater proportion of jobs in non-metropolitan areas that are apprenticeships.

While the overall unemployment situation for young people in non-metropolitan areas is generally worse than in metropolitan areas, there is a relatively greater proportion of jobs in non-metropolitan areas that are apprenticeships.

The smallest number of apprenticeship commencements relative to total employment in 1998–99 occurred in Sydney and Perth, two of the strongest labour markets in Australia, as shown earlier by their low unemployment rates.

Across Australia there is, on average, one apprenticeship commencement for every 38 jobs. The following table shows the ratio of apprenticeship commencements to total employment from the ABS integrated register of businesses for all the metropolitan and non-metropolitan areas of Australia. The table shows that there are about 78 jobs for each apprenticeship in Sydney but in non-metropolitan Tasmania only 14 jobs for every apprenticeship.

**Table 7: Apprenticeship commencements to jobs ratio, by State/Territory**

State/Territory	Ratio of total jobs to apprenticeship commencements, 1998–99	
	Metropolitan	Non-metropolitan
New South Wales	78:1	44:1
Victoria	41:1	24:1
Queensland	31:1	21:1
South Australia	31:1	18:1
Western Australia	71:1	50:1
Tasmania	34:1	14:1
Northern Territory	51:1	38:1
Australian Capital Territory	29:1	

Source: NCVER unpublished Apprenticeship and Traineeship statistics; ABS Integrated Register of Businesses as at September 1998

The variations revealed in the above table are substantial. It is clear that there is no consistent approach to apprenticeship creation on a broad geographical basis. The low rate of commencements to employment in Sydney and Perth suggests that, in stronger labour markets, training wages and a lesser supply of applicants might act as deterrents to apprenticeship creation. The gap between metropolitan and non-metropolitan areas in each State is also likely to be a reflection of these labour market differences. While different industry composition could be responsible for some of the variation between metropolitan and non-metropolitan areas, it is unlikely that compositional differences would explain the variations between capital cities.

A more detailed analysis of these data within the main metropolitan areas is provided later in this paper.

## Apprenticeship commencements and the 15–24-year-old population

An analysis has been undertaken of the distribution of apprenticeship commencements compared with the 15–24-year-old population by the ABS's 'labour market regions'. These regions are generally aggregations of statistical divisions and are used in the monthly ABS monthly Labour force survey. The advantage of using labour market regions is that up-to-date estimates are available on this basis on unemployment numbers. (The lack of concordance however between statistical divisions and labour market regions has nevertheless posed some problems in the analysis within metropolitan areas.)

This analysis, the apprentices:population ratio, shows both marked differences between metropolitan and non-metropolitan regions as well as substantial differences between states. The following table shows the ratios for each major metropolitan area together with each area's 15–24-year-old unemployment rate. Data are not available for the two Territories. The data show that in Sydney there was one apprenticeship commencement for every 26 young persons aged 15–24, whereas in Hobart there was one commencement for every eight young persons.

**Table 8: Apprenticeship commencements to 15–24-year-old population ratios and unemployment rates, capital cities**

City	Apprentices:15–24 population ratio	15–24 unemployment rate, May 1999, %
Sydney	1:26	9.7
Melbourne	1:14	13.1
Brisbane	1:12	19.0
Adelaide	1:10	18.2
Perth	1:27	13.0
Hobart	1:08	18.7

Source: NCVER unpublished Apprenticeship and Traineeship statistics; ABS Labour Force Survey (August 1998, November 1998, February 1999, May 1999)

This analysis supports the previous analysis comparing commencements to total employment. It is clear that, as far as metropolitan areas are concerned, there are two distinct groups of States. NSW and Western Australia both recorded low apprenticeship commencements while the other States recorded high numbers of commencements, relative to the 15–24-year-old population. These outcomes again support the thesis that apprenticeship commencements are relatively less frequent in stronger labour markets. However, the dimension of the differences also suggest that different policies or practices are being used in the administration of New Apprenticeships in the two groups of States and Territories.

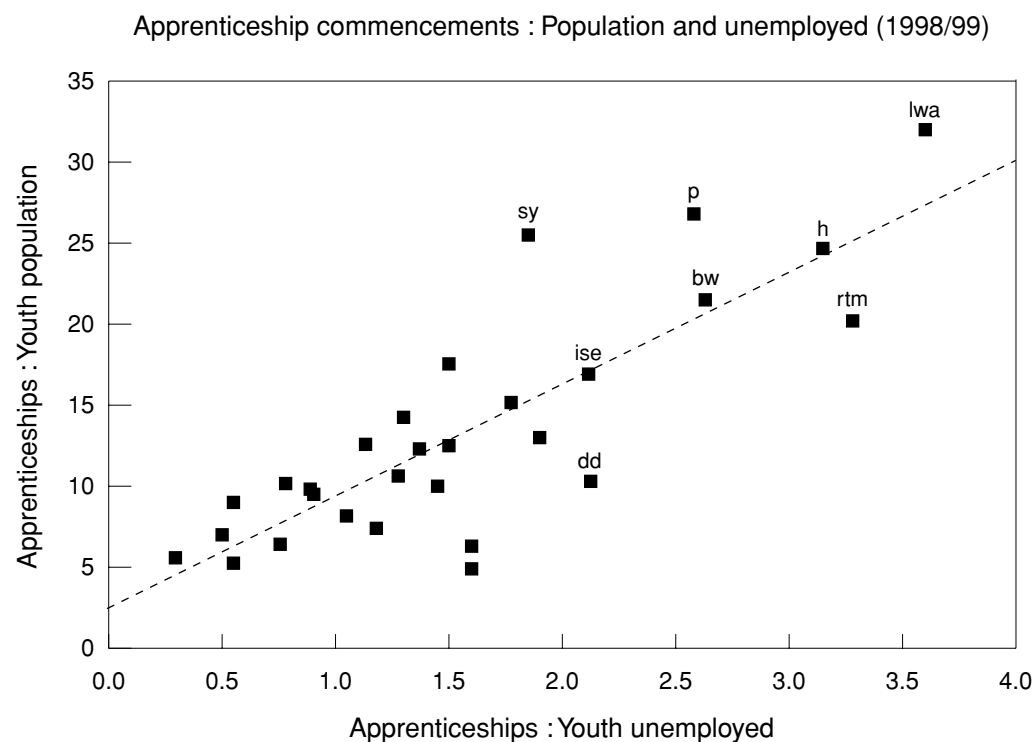
Sydney and Perth recorded the lowest 15–24 age group unemployment rates and thus relatively fewer young people are likely to be available in those cities for apprenticeship vacancies, especially in the CBDs of those cities. Nevertheless, Melbourne's unemployment rate was little different from Perth's, yet Melbourne saw one in 14 of its 15–24 age group population commencing an apprenticeship in 1998–99 compared with only one in 27 in Perth.

The two ratios, apprentice commencements:youth population and apprentice commencements:youth unemployed were plotted against each other for each labour market region in Australia. If few of the local youth population are apprentices, relative to other regions (low apprentice:population ratios), and if there are relatively few apprentices to unemploy, this might indicate an opportunity to develop regionally focussed strategies to improve local access. On the other hand, a low ratio of apprentices:population combined with a relatively high ratio of apprentices to unemployed might indicate that, while few of the young population are in apprenticeships, other options, (such as full-time education or other employment) are already available and the pool of unemployed is already being 'exploited' for apprenticeships.

Most labour market regions, including Melbourne, Brisbane and Adelaide, when plotted on their ratios of apprentices:population and apprentices:unemployed, were clustered at one end of the distribution. On this basis they appear to be regions where apprenticeships are relatively well provided and where the pool of unemployed appears to have been reasonably 'exploited' to supply persons for apprenticeships.

There were several outliers in this plot that suggest that there are areas where specific interventions might be considered. The following chart shows the results of this plotting exercise.

**Figure 2: Plot of ratios of population and unemployed to apprenticeship commencements, by statistical division**



Note: No data for Gold Coast and North West Moreton  
 Source: NCVET unpublished Apprenticeship and Traineeship statistics;  
 ABS Labour Force Survey (August 1998, November 1998, February 1999, May 1999)  
 (The codes used in the above chart are explained below.)

In the above chart those regions in the upper right section are those areas that have both relatively few apprenticeship commencements to each young unemployed person and relatively few commencements among the young population. The codes for these are as follows:

- lwa = Lower Western Australia
- h = Hunter (New South Wales)
- rtm = Richmond–Tweed/Mid-North Coast (New South Wales)
- p = Perth
- bw = Barwon Western District (Victoria)

ise = Illawarra/South Eastern New South Wales  
sy = Sydney  
dd = Darling Downs (Queensland)

The five regions that occurred in the upper right section are areas both poorly supplied with apprenticeships and with an apparent ready supply of young unemployed. These regions were Barwon–Western District in Victoria, Richmond–Tweed and Mid-North Coast in NSW, the Hunter region in NSW, the Perth metropolitan area, and the Lower Western in Western Australia. If regionally specific interventions to lift New Apprenticeship numbers were planned, these would be prime areas for consideration.

Two regions, Darling Downs–South West Queensland and Illawarra–South Eastern NSW areas appear to have a relatively high proportion of the local population in apprenticeships but there is still a pool of unemployed in these regions, with more than two young unemployed for each commencing apprentice. Codes for the other regions are not shown on the chart as this would unnecessarily clutter the chart.

If regionally specific interventions to lift New Apprenticeship numbers were planned, Barwon–Western District in Victoria, Richmond–Tweed and Mid-North Coast in NSW, the Hunter region in NSW, the Perth metropolitan area, and the Lower Western in Western Australia would be prime areas for consideration.

Apprenticeships are generally poorly provided in the Sydney metropolitan area but there is not necessarily as readily available a pool of young unemployed across the region likely to be available for apprenticeships. Analysis of regions within Sydney suggests that there is an east/west divide, with jobs more common in the eastern half and the young unemployed concentrated in the western half.

These areas are examined in more detail later in this report, along with some analysis of the interventions that might be appropriate to generate more New Apprenticeship commencements.

## Apprenticeships within metropolitan regions

Some of the most important variations in the ratio of apprenticeship commencements to total employment occur within the major metropolitan areas. The following section provides an overview of the main metropolitan areas in Australia, showing how widely apprenticeship creation varies across these areas.

While these data show wide variations in the ratio of commencements to total employment there was much less variation across all States examined in the ratio of commencements to 15–24 age group population.<sup>5</sup> This suggests that apprenticeships may be largely supply- rather than demand-driven. This is not to say however that there are not marked variations in commencements as a proportion of the young population of various metropolitan statistical sub-divisions. (Table A2-2 in appendix 2 provides data on various commencement to population and unemployed ratios for labour market regions within all major metropolitan areas other than Hobart.)

### Sydney

Areas of Sydney showing the greatest ratios of apprentices to employed persons were Outer South Western Sydney (1:27), Outer Western Sydney (1:34), and Blacktown–Baulkham Hills (1:37). ABS Integrated business register data on industry of employment show these areas have a mix of manufacturing and retail trade as the main industries. The lowest ratios were

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<sup>5</sup> The authors acknowledge that the 15–24 age group no longer represents the overwhelming majority of apprenticeship commencements; however, it is still easily the largest single 10-year age cohort of commencing apprentices and the group with the highest unemployment rates. One factor contributing to this appears to be the rise in existing worker ‘traineeships’, comprising older workers (see Schofield 1999a, p.xiv).

evident in Inner Sydney (1:325), Lower Northern Sydney (1:244), and Inner Western Sydney (1:109) with property and business services being the lead industry in the former two, while the inner west was led by retail trade, health and community services.

South Western Sydney has consistently shown the highest unemployment rates within the Sydney metropolitan area over the last ten years, supporting the observation that labour market conditions appear to be an important determinant in apprenticeship commencements.

In an analysis of the Sydney region undertaken by the National Institute of Economic and Industry Research (NIEIR 1999) for the GROW Employment Council (the Sydney Area Consultative Council), the NIEIR described Sydney as being comprised of two elements, 'global Sydney' and the 'second city'. The global Sydney comprised the northern, central and 'gentrifying' inner city, while the second city comprised the 'production corridor' of mid-western and south western Sydney.

NIEIR notes that the production corridor has, over the last 20 years, seen job generation in manufacturing, retailing and service industries 'follow[ing] population and infrastructure away from inner areas. **That trend is now reversing'** (their emphasis). The implication thus is that growing, globally oriented businesses in the knowledge-intensive new industries, based predominantly in the Inner Sydney and Lower Northern Sydney labour market regions, are simply not participating in the existing structured training system. Young people in the 'global Sydney' half of Sydney comprised about 36% of Sydney's 15–24 age group population but only 27% of Sydney's apprenticeship commencements.

So, while industries in this part of Sydney are much less likely to hire apprentices, so too are young people resident there less likely to enter an apprenticeship, despite this area having perhaps the strongest labour market in Australia.

NIEIR specifically makes the observation that, while households in the production corridor of Sydney 'have made a strong commitment to education over the past decade...large numbers of residents are excluded from new employment opportunities associated with globalisation.' They contend that social gaps will widen in Sydney unless employment strategies are developed to provide improved skills in this region and improved access to employment in the new economy.

... growing, globally oriented businesses in the knowledge-intensive new industries, based predominantly in the Inner Sydney and Lower Northern Sydney labour market regions, are simply not participating in the existing structured training system.

## Melbourne

The outer regions of Melton–Wyndham, South Eastern Outer Melbourne and Yarra Ranges Shire Part A all showed very high ratios with between 1 in 12 and 1 in 14 apprenticeship commencements per local job. As was the pattern in Sydney these areas show a mix of manufacturing and retail trade as the main industries. Again following the pattern in Sydney the lowest ratios of apprentices to employed occurred in Inner Melbourne (1: 187), along with the adjoining Boroondara City (1:86) both showing high employment in the property and business services industry, the major growth sector in the new economy.

Following a similar pattern to Sydney, the inner parts of Melbourne (Inner Melbourne, Eastern Middle Melbourne, Boroondara City and Southern Melbourne) contained 35% of the Melbourne metropolitan 15–24 age group population but represented only 28% of apprenticeship commencements.

## Brisbane

Of all capital cities, Brisbane and regional areas show the highest ratios of apprenticeship commencements to employed persons. That part of Beaudesert Shire located within the Brisbane Statistical Division (Part A—about 52% of the shire's employed labour force), which is dominated by employment in the construction industry, showed the highest rate of one commencement to every second person employed (1:2.3). Brisbane City itself showed a ratio of 1: 50 with property and business services, retail trade and health and community services being the main industries.

Brisbane City contained 59% of the metropolitan area's 15–24 age group population but represented only 48% of apprenticeship commencements. Again this is a pattern similar to Sydney and Melbourne.

## Adelaide

The outlying Northern and Southern Adelaide regions showed ratios of one apprenticeship commencement to every 18 local jobs, with a mix of manufacturing and retail trade employment predominating in those regions. Eastern Adelaide, which includes Adelaide CBD, followed the pattern observed in Sydney and Melbourne, with a low rate of commencements of 1:83. It also reflected the same industry predominance of property/business services as inner metropolitan areas of other capital cities.

Eastern Adelaide also followed the pattern of other metropolitan areas in representing 22% of the 15–24 age group population but providing only 14% of apprenticeship commencements.

## Perth

Perth recorded the lowest take-up of apprenticeships compared to other capital cities with the highest rates being in Northern (1:41) and Eastern (1:44) Perth. These areas have a mix of industries, with retail trade and property/business services leading in the North, while wholesale trade and mining predominate in the East. Central Perth shows a very low 1:455 ratio of apprenticeship commencements to total jobs, the lowest ratio in Australia, with property/business services being the main industry in that region.

Central Perth shows a very low 1:455 ratio of apprenticeship commencements to total jobs, the lowest ratio in Australia ...

The structure of the sub-divisions in Perth makes an analysis on the basis of 'inner' versus 'outer' regions difficult as the South Eastern Metropolitan sub-division embraces inner and outer areas. Nevertheless, the Central Perth region follows the pattern of the other States' metropolitan areas in having 9% of the 15–24 age group population but only 5% of the apprenticeship commencements.

Analysis of labour market data and commencements in the following sections supports the importance of labour market differences in apprenticeship creation.

## Regional recruitment experience

Following from the statistical analysis of apprenticeship employment and its relationship to youth unemployment and the geographical distribution of total employment, a series of consultations were conducted with labour market intermediaries in a number of regions. This included area consultative committees, group training companies and job placement agencies. These discussions were held to help throw light on specific issues and were not selected on a random basis but rather represented some of the larger examples of these bodies. The researchers experienced problems in completing the number of interviews originally planned because of the difficulty of contacting key personnel, especially those working in group training companies. Nevertheless, the contacts made were with experienced persons, operating in a range of different labour markets in metropolitan and regional locations.

One feature to emerge from the consultations was that the New Apprenticeships system has not yet been accepted widely as an integration of apprenticeships and traineeships. Most contacts continued to distinguish between the two and many were critical of the educational standards applying in non-traditional areas, especially in those of less than one year's duration. By this they meant that the quality of the formal training component and the relationship between this component and on-the-job experience was inferior to the standards usually experienced in relation to 'traditional' apprenticeships.

Anecdotally, the experience of bodies such as group training companies (GTCs) in recruiting apprentices showed marked variations, consistent with the statistical analysis described in this report. One GTC based in Sydney employing about 700 apprentices, mostly in Sydney, reported difficulties in recruiting sufficient numbers of apprentices in Sydney. Recruitment in

other geographical areas of New South Wales, such as Newcastle and Wollongong was somewhat easier according to both this hospitality-based GTC and another large GTC operating across a number of regions of the State. The hospitality-based group training company currently has at least 150 vacancies for apprentices in NSW and believes this figure could easily be doubled. In their experience the size of Sydney and its transport difficulties have contributed to this problem of unfilled apprenticeship vacancies. The hospitality industry in which this GTC mainly operates also brings its own unique problems. Hours of operation are not in harmony with most public transport and the industry has a poor image among many parents.

... New Apprenticeships have not yet been accepted widely as an integration of apprenticeships and traineeships. Most contacts continued to distinguish between the two and many were critical of the educational standards applying in non-traditional areas, that is what were traineeships ...

A study of apprenticeships in New South Wales conducted by the New South Wales Labour Economics Office of Department of Employment, Workplace Relations and Small Business (DEWRSB 1998a) found that about 85% of apprenticeship (not including traineeships) vacancies were filled, with the greatest difficulties experienced in filling hairdressing and food trade apprenticeships. These areas also experienced the highest turnover rates of apprentices. None of the employers recruiting trainees experienced recruitment difficulties, although nearly two-thirds of group training companies reported difficulties.

Two-thirds of employers in the DEWRSB study rated the quality of their apprentice recruits as either high or exceptionally high. They also found however that only four out of 16 applicants for the average apprentice vacancy were suitable. Reasons most commonly given for unsuitability were poor attitude and presentation and a lack of aptitude for the position.

Only 81% of vacancies in Sydney were filled according to the New South Wales DEWRSB study, the lowest rate in the State. Between 92% and 100% of apprentice vacancies elsewhere in New South Wales were filled successfully. The report does not comment on geographical difficulties in filling traineeship vacancies, although, as noted, nearly two-thirds of GTCs reported recruitment difficulties. Over 60% of applicants for traineeships with GTCs were judged to be unsuitable, again for reasons similar to those given in regard to apprentices.

A similar study undertaken in Victoria (DEETYA 1998) undertaken before the introduction of New Apprenticeships, produced similar results to those in New South Wales. Both employers and GTCs in Victoria were generally able to recruit sufficient apprentices and trainees to meet their needs. But again a high proportion of applicants was judged unsuitable by employers and GTCs. The study noted geographical differences in the ease of recruitment, with most difficulties reported in Melbourne.

The Victorian study specifically found that many employers who received apprentices from GTCs, while rejecting only a small proportion, cited transport difficulties in hospitality and rural occupations in particular, along with attitudinal and aptitude reasons, as the main reasons for rejecting apprentices. This study also found that employers and GTCs found training wages to be a disincentive to increasing the potential supply of apprentices.

...employers and GTCs found training wages to be a disincentive to increasing the potential supply of apprentices.

A study of apprenticeships in Queensland by Schofield (Schofield 1999a) indicates that rapid growth in apprentice numbers in Queensland has possibly led to quality problems. A recently released report from DETYA (2000) lends support to Schofield's findings, revealing that Queensland had experienced the highest apprenticeship first year attrition rates among the States at 21%.

*The incidence of service failure within Queensland's traineeship system is unacceptably high. Survey interviews show that 19% of trainees receive no training from their RTO and many RTOs are minimising their obligations in terms of delivery and assessment. 27% of employers and 36.7% of trainees indicate that they had no involvement in developing the Training Plan and 39% of both groups indicate that the Training Plan has never been referred to in order to check progress (Schofield 1999a).*

A New South Wales GTC believed, as Schofield found, that both governments and GTCs in general were providing insufficient supervision of apprentices. They also commented that

some employers, especially smaller employers, were taking advantage of their apprentices by requiring them to work lengthy unpaid hours.

By contrast with the experience in Sydney, a large GTC in regional Victoria specialising in the traditional trades as well as in the newer areas of office administration and retailing, reported no difficulties in recruiting apprentices in regional Victoria. They recruit about two apprentices to one trainee per year. They reported that employers in their region were generally happy with the standard of their apprentices.

Another large GTC operating mainly in non-metropolitan areas of NSW also noted no difficulties in recruiting suitable apprentices; rather, they believed that the problems were on the demand side. Operating mainly in the Newcastle area of NSW, one of the regions identified in this analysis as suitable for specific regional initiatives under New Apprenticeships, they noted that industry-specific initiatives were required to encourage an expansion of apprenticeship opportunities. They identified a particular problem in areas such as Newcastle, where rapid changes were occurring in the labour market. An environment of uncertainty over employment prospects has created substantial reluctance on the part of many employers to commit to apprentice recruitment. The industries that are growing in the Newcastle–Hunter Valley region, including coal mining, power generation, warehousing, transport and vineyards, have not been traditionally involved in apprenticeship.

This GTC also noted specific issues on the North Coast of NSW, another region identified as suitable for specific initiatives to boost apprenticeships. They noted the lack of apprenticeships in several emerging agricultural sectors, including forestry, aquaculture, banana growing and horticulture/arboriculture. They suggested that ‘agriculture industry incubators’ should be established as the focal point for the largely unorganised and disparate agricultural specialities to begin to develop sector-specific apprenticeships.

One GTC also noted that in an area of high unemployment, cash-in-hand and under-award payments were prevailing over regulated employment under New Apprenticeships, commenting that in some trade areas currently over-supplied, tradespersons were in fact being paid less than the training wage for apprentices.

# State and regional differences in apprenticeship characteristics

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The different rates of growth evident between the States and Territories, and the differences in various commencement to employment and unemployment ratios appear to be related to both labour market differences and differences in policy and practices. Some of the characteristics of apprenticeships, such as the expected duration and Australian Qualifications Framework (AQF) level, appear to differ between jurisdictions for reasons related to variations in policy, such as the level of part-time apprenticeships. These issues are examined later in this section.

Differences in both policies and labour market conditions are likely to be reflected in the occupational composition of apprenticeship commencements. Because of the large number of occupational categories, and to simplify analysis, commencements by occupation have been grouped into three skill levels, reflecting ASCO coding.

The two States with the strongest labour markets, New South Wales and Western Australia, recorded (along with the Australian Capital Territory) relatively low proportions of their 1998–99 commencements in the lowest skilled occupations. This is an outcome that would be consistent with the hypothesis that training wages might be a deterrent to undertaking an apprenticeship. Apprentices undertaking a traditional trade course would, on the other hand, be accepting a training wage while reasonably anticipating a higher potential income working in a trade. (In the 1999 *Student outcomes survey* [NCVER 1999] 75.9% of employed graduates completing a trade certificate were employed as tradespersons. Earnings for this group were about \$32 per week greater than for the largest destination category, intermediate clerical, sales and service occupations, for those completing AQF Certificates I, II and III level courses. These are the courses most likely to be undertaken by non-trade apprentices.)

## Occupational characteristics

Occupational data in this study were examined at the ASCO minor occupational group level. At this level there are 35 minor occupational groups in which apprenticeship commencements were classified in 1998-99. When analysed at this level the composition of apprenticeship commencements is concentrated in a relatively narrow range of largely gender segmented occupational areas.

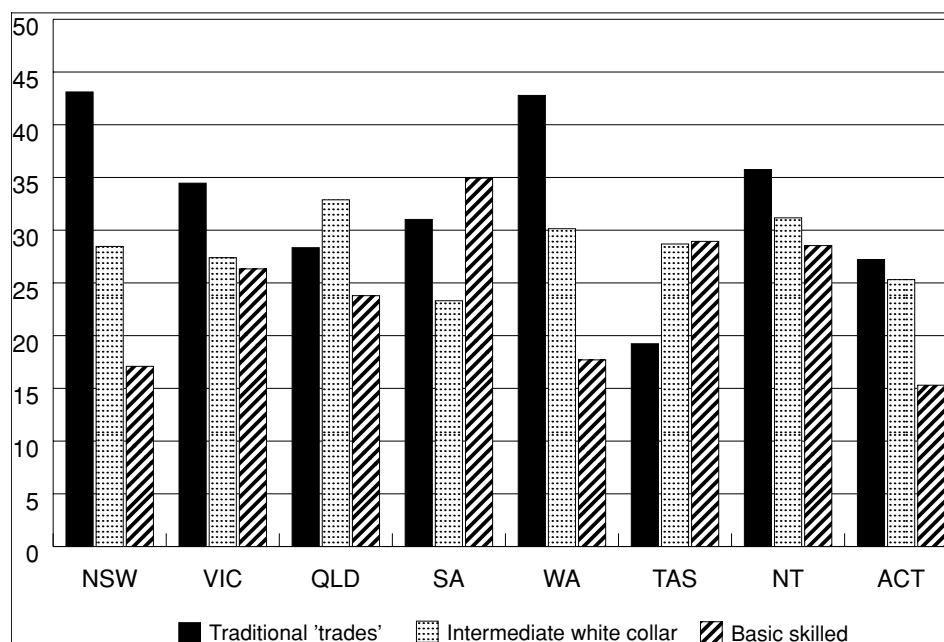
Over 85% of commencements occurred in 13 of these 35 occupational groups. In these 13 groups either males or females comprised at least 75% of the commencements in nine of the groups. Females made up less than 2% of commencements in the four most numerous 'traditional' trade areas (mechanical/fabrication, automotive, electrical and construction). In the three largest categories, elementary sales occupations, intermediate clerical occupations and intermediate service occupations females made up about 60%, 83% and 76% respectively of commencements.

The high number of commencements in South Australia, Tasmania, Queensland and Victoria compared to NSW and Western Australia appears to be partly related to growth in apprenticeship commencements outside the traditional trade areas. Using the 13 occupational groups<sup>6</sup> that make up 85% of national commencements and then grouping them into three broad categories, 'traditional trades', 'intermediate white collar' and 'basic skilled', the following pattern emerges by jurisdiction.

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<sup>6</sup> The groups are defined as follows: 'Traditional trades' are ASCO minor groups 41, 42, 43, 44, 45 & 49; Intermediate white collar' are ASCO 61, 62 & 63; 'Basic skilled' are ASCO 82, 91, 92 & 99.

**Figure 3: Occupational category of apprenticeships by jurisdiction, commencements in 1998–99**



Source: NCVET unpublished Apprenticeship and Traineeship statistics

It is clear that in those jurisdictions (Tasmania, South Australia, Queensland and Victoria) that have shown rapid growth in apprenticeship numbers in recent years, a relatively higher proportion of commencements are in the basic skilled occupations (especially ASCO groups 82, 91, 92, and 99). (See figures A3-1, A3-2 and A3-3 in appendix 3.)

On the other hand the two States that have shown lower growth rates, NSW and Western Australia, along with the Australian Capital Territory to some degree, have very similar occupational profiles among their apprenticeship commencements, with fewer than 20% of their commencements in the basic skilled occupations. In both these States the traditional skilled trades still represent the largest of these three categories.

When growth patterns by State/Territory are examined using this grouping into three broad categories, it is apparent that high growth in apprenticeship commencements has not been achieved in some States simply by concentrating on more lowly skilled apprenticeships. Over the last four years growth in apprenticeship commencements in the traditional trades occupations has been stronger in the high growth States of Victoria and Queensland than in New South Wales, where overall growth has been lower.

Moreover, growth in New South Wales over that period in the intermediate white collar occupations (intermediate clerical, sales and service occupations) was static, whereas all other States recorded significant growth in this area. As with the other States, New South Wales recorded strong growth in the 'basic skilled' category (elementary sales occupations, cleaners, factory labourers and trades assistants).

Western Australia was similar to New South Wales, although Western Australia recorded strong growth in intermediate white collar apprenticeships. (Figures A3-1 to A3-3 in appendix 3 provide comparative data for States and Territories for 1995–96 and 1998–99 by the three skill groups used in the above analysis.)

One final observation needs to be made in relation to commencements by occupation. Using this occupational grouping, the expected duration of training patterns vary markedly between the jurisdictions. Although most (about 73%) of the commencements in the 'traditional' trades area had an expected duration of at least three years, it is clear that even in this area the traditional notion of 'skilled' trades training involving at least 3 years' study is no longer universal. Several industry-based contacts suggested that a shortened period of trade training might indicate the development of greater flexibility in delivery arrangements and a greater use of RPL mechanisms. Table 9 below shows the percentage of traditional

trades (ASCO minor groups 41–45 & 49) by jurisdiction that had an expected duration of the standard 3–4 years.

**Table 9: Expected duration of traditional trades apprenticeships by jurisdiction, 1998–99 commencements**

<b>Jurisdiction</b>	<b>Percentage of traditional trades with expected duration of 3–4 years</b>
New South Wales	89
Victoria	69
Queensland	57
South Australia	82
Western Australia	67
Tasmania	65
Northern Territory	43
Australian Capital Territory	87

Source: NCVET unpublished Apprenticeship and Traineeship statistics

On the other hand, about 10% of the commencements in the least skilled occupations (ASCO 81–99) had an expected duration of more than two years. This might in part be attributable to part time apprenticeships. Oddly, only about 7% of commencements in the intermediate white collar occupations (ASCO minor groups 61–63) had an expected duration of greater than two years, suggesting perhaps that part-time apprenticeships are less likely in this group of occupations. Almost 82% of such commencements had an expected duration of less than one year, although on a State/Territory basis this percentage varied widely between 68% in the Northern Territory to 90% in New South Wales and South Australia.

Table A3-2 in appendix 3 shows national data on apprenticeship commencements for 1998–99 by expected duration by ASCO minor group. Duration data is examined in more detail later in this paper. Between the States there were again marked differences in the proportion of traditional apprenticeships with an expected duration of at least three years.

Again the above table reinforces the comment in the Queensland submission to the Senate (DETIR 2000) that there are marked differences in the nature of the apprenticeship system between the States and Territories. These differences do not appear to be related to labour market differences but rather to differences in policies or practices between the jurisdictions. The specific reasons for the above differences are not clear but appear to be related to the level of flexibility of administration within each jurisdiction. Several industry sources commented that training of shorter duration is more attractive to many employers in times of economic uncertainty.

One peak industry body commented that their members believed that there were differences between some of the major States in the level of flexibility in delivery among TAFE systems. They gave by way of example, the higher engineering certificate apprenticeship course that was introduced in Victoria and Queensland but not in New South Wales as a possible reason for part of the lower growth in traditional trades apprenticeships in New South Wales. They also believed that varying approaches to the recognition of prior learning between the States and the degree to which workplace delivery of training was practiced could influence differences in the expected duration of traditional apprenticeships.

The question therefore remains as to why growth in commencements has varied so markedly between States and Territories. One obvious distinction between New South Wales and Western Australia on the one hand and the other States can be found in their labour market conditions. Towards the end of 1998–99 (May 1999), both New South Wales and Western Australia recorded unemployment rates of 6.5% (seasonally adjusted), well below the national seasonally adjusted rate of 7.5%. The other States recorded rates between 7.9% and 10.5%. At that time Sydney in particular recorded a very low (unadjusted) rate of 5.2% and Perth 6.5% compared with the other capitals, which ranged between 7.7% and 10.1%. At the beginning of 1995–96 a similar split existed, with the unemployment rates in New South Wales and Western Australia both at 7.5% while the other States' rates ranged between 8.7% and 9.6%.

It therefore seems likely that a further factor contributing to lower rates of growth in apprenticeship commencements in both New South Wales and Western Australia has been the more constrained supply of potential apprentices and the availability of alternative employment options in generally stronger labour markets. The prevailing labour market conditions, while serving to explain some of the variability at the State level, do not however appear to be a sufficient explanation for the variation in the occupational mix of apprenticeship commencements.

To determine the degree to which the labour market is a determinant of apprenticeship commencements, data have been analysed at the statistical division level. As has been shown, labour market variations at the smaller geographical unit level are greater than the differences between States and Territories, therefore any relationship between labour market conditions and the take-up rate of apprenticeships should be more pronounced at the statistical division level.

Apprenticeship commencement data, together with labour force data on unemployment rates and estimated resident population at that level were examined. Specific areas throughout Australia showed apparently high rates of youth unemployment and also showed low ratios of apprenticeship commencements to youth population. Commencements in these areas were examined from 1995 to 1999 for the three major occupational groups which make up 85% of all commencements. These are termed traditional trades, intermediate white collar and basic skills. These trends are summarised below.

## **Occupational trends (1996–99) by statistical division**

### **Overview**

Specific statistical divisions throughout Australia showed apparently high rates of youth unemployment accompanied by low ratios of apprenticeship commencements to youth population. Commencements in these areas were examined from 1996 to 1999 for the three major occupational groups, which make up 85% of all commencements. These are termed traditional trades, intermediate white collar and basic skills. The groups are defined as follows: 'Traditional trades' are ASCO minor groups 41, 42, 43, 44, 45 & 49; 'Intermediate white collar' are ASCO 61, 62 & 63; 'Basic skilled' are ASCO 82, 91, 92 & 99.

Analysis of individual statistical divisions which appear to have relatively low commencements per capita and high unemployment rates show some distinct trends for the three occupational groups.

Across all regions examined, regardless of State, there was a consistent predominance of males in traditional trades outnumbering females by almost 9:1. The traditional trades showed only slight growth compared to the substantial growth often experienced by the other occupational groups. The relatively low numbers of females in traditional trades showed wide variations in growth across regions with negative growth in the Hunter, Illawarra and Perth. Areas of declining commencements for males were South West Queensland and Perth.

Perth appears to show the least promising trends in apprenticeships, with the only growth occurring in the basic skills group. Overall however, females showed steady growth in numbers, while males were in decline.

For the statistical divisions examined in NSW and Queensland intermediate white collar apprenticeships showed strong growth for both sexes, however in NSW there was evidence of a slight decline between 1998 and 1999, in particular for South Eastern NSW, Hunter, and Illawarra.

Barwon and Western District in Victoria showed strong growth which continued through to 1999.

With the exception of Queensland (South West and Darling Downs) basic skills commencements for males and females showed substantial growth, in particular for 1998 to 1999.

NSW had the only regions where females had the majority or at least equal share of basic skills commencements (South Eastern, Hunter and Illawarra). Females were under-represented across all other areas.

## NSW

### *Hunter statistical division*

The Hunter region of NSW is centred on NSW's second city, Newcastle. It covers the coast north and south of Newcastle along with the hinterland of the Hunter Valley, where agriculture, viticulture/winemaking, electricity generation and coal mining are important industries. It provides about 7.5% of the total jobs in NSW.

Throughout 1998–99 there were, on average, 5750 males and 3700 females aged 15–24 unemployed in the Hunter region. The unemployment rate for these males was 21.2%, the second highest rate for this group in NSW, and 16.1% for females, the fifth highest rate in the State. The poorer employment situation for males reflects the decline of the traditional male employing industries in the region, manufacturing and coal mining. Major employing sectors are retailing (17%), manufacturing (just under 14%) and property and business services (about 10.6%). Health and community services also provides employment for just over 10% of the workforce in the Hunter.

The Hunter region generated just one apprenticeship commencement for every 63 local jobs, compared with a ratio of about 1:44 for the whole of non-metropolitan NSW. If the Hunter had achieved the NSW non-metropolitan average a further 1300 apprenticeship commencements would have occurred during 1998–99.

#### **Traditional trades**

Males predominated in the traditional trades-based apprenticeships comprising 87% of the total of 4749 for the Hunter region. While commencements in the traditional trades remained fairly static across the four years, there was a decrease of 10% for males from 1997 to 1998, followed by an increase in 1999 by 13%. Female commencements declined by 17% in 1999 from the previous year to 135.

#### **Intermediate white collar**

Females represented two-thirds of all commencements in intermediate clerical, sales and service New Apprenticeship occupations. However commencements in this area showed a decline in 1999, perhaps an indication of the general decline of major industries in the area.

#### **Basic skills**

Females were well represented in New Apprenticeships in the basic skills occupations comprising 53% overall. In 1999 this group showed a massive increase of 339% from 1998 for females and 166% for male commencements.

### *Illawarra and South Eastern NSW statistical divisions*

This region covers the South Eastern seaboard of NSW and the adjoining Illawarra region which includes NSW's third largest city, Wollongong. South Eastern NSW is combined with the Illawarra in labour force survey data. During 1998–99, this region, Illawarra/South Eastern NSW, recorded an average unemployment level among young people aged 15–24 of almost 9000. The year average unemployment rate throughout the region for young women was 18.2%, the third highest in the State. The rate for young men was 18.5%, also the third highest average unemployment rate throughout NSW.

While the region achieved a relatively good ratio of commencements to total jobs, it remains an area of high youth unemployment. During 1998–99, a relatively low proportion of the region's young unemployed became apprentices.

### *Illawarra*

Illawarra statistical division covers the third largest city of NSW, Wollongong, and surrounding areas. To a limited extent Wollongong functions as a dormitory suburb of Sydney, with nearly 17% of residents working in the Sydney metropolitan area (DEWRSB 1999a).

About 5% of the State's jobs, about 112 000, are located within the Illawarra, with the largest proportion of jobs being in retailing (17%). The other major employing industries were manufacturing (14%), property and business services (11%) and health and community services (10%).

While the Illawarra performed slightly above the NSW non-metropolitan average in creating one commencement for every 41 jobs (as against 1:44) with the adjoining South Eastern NSW, it remains an area in which a relatively low proportion of the young unemployed are becoming apprentices.

#### **Traditional trades**

Again males predominated in the traditional trades, comprising 87% of the total of 3384. The rate of female participation has remained fairly static across the four years with -3% growth in 1999.

#### **Intermediate white collar**

Females comprised 71% of total commencements for this group, however they experienced negative growth in 1999 of -34%, following fairly rapid growth since from 1996 to 1998. Male commencements in this area have showed a decline since 1997.

#### **Basic skills**

Males and females have equal share of commencements in basic skills occupations, both showing rapid growth in 1999, doubling the rate of commencements.

The Illawarra is another regional area with high youth unemployment, and with declining rates of intermediate white collar commencements; young people are mainly accessing the lower skilled work areas. These trends raise the question of whether pathways are available for these young people into higher skilled employment/training options. Any intervention should aim to provide a wider range of training opportunities in more highly skilled occupations.

#### *South Eastern NSW*

About 2.2% of the State's jobs are located within South Eastern NSW. The major employing industries in South Eastern NSW are retailing (19% of total jobs), accommodation, cafés and restaurants (11%) and health and community services (9.6%).

Male participation in traditional trades in the South East far outweighed females for each year, comprising 84% of the total of 1375. Despite this predominance of males, the number of females in traditional trades increased at a higher rate of 25% between 1997 and 1999, whereas males increased by 13%.

In the intermediate white collar occupations females outnumbered males over the four years, comprising two-thirds of the total for this occupational group. Both sexes showed a slight decrease in 1999, following increases in the three years prior.

In New Apprenticeships in the basic skills group of occupations males outnumbered females over all four years, comprising 64% of all commencements. Both sexes showed a substantial increase from 1998 to 1999, where female commencements increased by 133% to 161, while males increased by 127% to 241.

Regional targeting of the largest service sector industries to increase apprenticeship creation, retailing, accommodation, cafés and restaurants and health and community services, with a focus on encouraging males into traditional female areas in these industries would appear to be a reasonable strategy.

#### *Richmond–Tweed*

The Richmond–Tweed statistical division is located in the far north-eastern corner of NSW, adjoining the Queensland border. The total number of jobs in the region is similar to South Eastern NSW at 54 500, representing about 2.2% of total employment in NSW.

The ABS Labour force survey data groups Richmond–Tweed with the adjoining Mid-North Coast division. Unemployment rates in the combined region are high, especially for young people. Population growth in the region has been high during the 1980s and 1990s and it has, throughout that period been one of the high unemployment regions of Australia. Data from

the 1996 Census show the unemployment rate in Richmond–Tweed for 15–19-year-olds as 24.8% and 26.4% for the 20–24-year-old age group (DEWRSB 1999b).

For 1998–99 the average unemployment rate for young females was 24.5%, and for young males 25.2%, both easily the highest rates in NSW. This area has the highest unemployment rate in Australia for young women and equal highest in Australia (with Mersey–Lyell in Tasmania) for young men.

Almost 21% of the Richmond–Tweed area’s jobs are in retailing, while the other major employing industries are health and community services (12%), manufacturing (11%), and accommodation, cafés and restaurants (10.5%).

Males dominated in the traditional trades-based apprenticeships, comprising 83% of commencements and showing an increase of 18% from 1998 to 1999. Female commencements however grew by a larger 52% in 1999 to 79.

Females comprise over two-thirds of commencements in New Apprenticeships in the intermediate white collar occupational group showing an increase of 58% for 1997 to 1998 tapering off to a 23% increase in 1999. Male participation increased by a larger 39% to 106 commencements in 1999.

Females comprised only 40% of the total commencements in New Apprenticeships in basic skilled occupations, nonetheless showing a dramatic increase from 1998 to 1999 of 109%. Males also showed a substantial increase of 120% to 316 commencements in 1999.

The region clearly has a substantial number of young unemployed and, given the area’s history of high unemployment, appears to require further intervention to alleviate the situation. Specific initiatives in establishing New Apprenticeships in some of the agricultural activities of banana growing, aquaculture and horticulture were suggested by one large group training company operating in the region. While these industries are growing, training arrangements at present were regarded as inadequate.

## Victoria

### *Barwon–Western Victoria*

Victoria’s Barwon–Western region is centred on Geelong and covers the south-western corner of the State.

Labour force data for the Barwon–Western region show there were on average 3050 females and 3025 males unemployed for the 1998–99 period. Females showed a higher unemployment rate of 19.4% compared to 16.1% for males for the same period.

With 4% of Victoria’s jobs being located in this area, the main employing industries were manufacturing (20%), retail (16%) and health and community services (11%).

### *Barwon*

#### **Traditional trades**

Following the national trend, males comprised 87% of commencements in the traditional trades, showing a steady increase over the four years. Following nil growth in the two years prior, 1999 saw a 33% increase for females to 96 commencements.

#### **Intermediate white collar**

Females comprised more than two-thirds of all intermediate white collar commencements, increasing sharply in 1999 by 129% to 700. Males also showed a substantial increase of 92% to 294 in 1999.

#### **Basic skills**

Unlike the relatively even gender distribution in basic skills commencements in selected areas of NSW described above, in Barwon, females comprised only 35% of this group. At the same time however, the number of females more than quadrupled to 480 in 1999, following negative growth in previous years.

The Richmond–Tweed/ Mid-North Coast area of NSW has the highest unemployment rate in Australia for young women and equal highest in Australia for young men.

The distinguishing feature of Barwon appears to be the relatively strong presence of manufacturing industry accompanied by a growth in traditional trades, a trend not apparent in other regional areas where a decline in both was more likely to be the case. Another atypical feature is the apparent gender segregation in the basic skills category in favour of males, where other regions tended to show a more equal gender distribution.

### *Western District*

Only 2% of Victoria's jobs are located in the Western district. The main employing industries followed the same pattern as neighbouring Barwon, with retail (18%) dominating, followed by manufacturing (15%) and health and community services (14%).

#### **Traditional trades**

Males dominated in the traditional trades, accounting for 87% from a total of 918 and showed slight increases from 1996 to 1999. While the actual number of female commencements was very small, they showed greater growth, increasing by half in 1999 to 41 commencements.

#### **Intermediate white collar**

Again females comprised more than two-thirds of all commencements, and more than doubled their numbers in 1999 to 590. Males on the other hand showed more modest growth of around 30% for 1997–99.

#### **Basic skills**

Males comprised 69% of all commencements, after experiencing a large drop in commencements in 1998 from 181 down to 106. Females showed substantial steady increases in commencements over the four years.

## Western Australia

### *Perth*

As noted earlier in this paper, Perth appears to have a low proportion of both its youth population and its young unemployed entering New Apprenticeships. The Perth CBD in fact recorded the lowest ratio of New Apprenticeship commencements to total jobs of all regions in Australia. Along with Sydney, Perth also has one of the strongest labour markets in Australia and a diversity of employment across industries. Strangely however, Central Metropolitan Perth recorded a high youth unemployment rate, 21%, and a very low proportion of its young unemployed commencing New Apprenticeships, with a ratio for 1998–99 of one commencement to about every six young unemployed. Almost all other metropolitan regions in Australia recorded commencements:young unemployed ratios of less than 1:2.5.

The major industry sectors for employment in Perth are retailing (16%), property and business services (14%), manufacturing (12%) and health and community services (11%).

Labour force survey data averaged over 1998–99 showed there were 10 425 unemployed males and 9525 unemployed females aged 15–24 with unemployment rates of 13.6% and 12.8% respectively.

With over three-quarters of Western Australia's jobs located here, Perth's youth unemployment rate was the lowest for the State, with regional areas ranging between 14% to 16.7% (year averages). It appears that because of the strong local labour market young people are reluctant to enter New Apprenticeships with the low training wage associated with that pathway.

#### **Traditional trades**

Of 10 850 commencements for Perth, males comprised 86%. However males showed negative growth of -14% in 1999 with a drop of 330 commencements. Females showed declining growth over the four years.

#### **Intermediate white collar**

Females comprised two-thirds of all commencements, showing steady growth. Males on the other hand showed declining growth with a drop of -17% in 1999.

### **Basic skills**

Females comprised only 39% of all basic skills commencements, although their numbers more than doubled from 1998 to 1999. Males showed only a 14% increase for the same time period.

As with Sydney, Perth represents a labour market that offers many opportunities to extend New Apprenticeships; however, it appears that alternative options are more attractive to the potential participants. The relatively high number of young unemployed in northern metropolitan Perth, with an unemployment rate of 16.9% at May 1999, suggests that regional strategies to encourage participation in New Apprenticeships could be usefully targeted at that region.

### *Lower Western Region*

This labour market region comprises three statistical division—Upper and Lower Great Southern and South West—and covers the centres of Albany, Bunbury, Margaret River (South West), Narrogin (Upper Great Southern) and Katanning and Manjimup (Lower Great Southern). The area has about 77 000 jobs, most of which are in retailing (17%), manufacturing (15%) and health and community services (11%). More than 70% of these jobs are located in the South West area.

There were 1017 apprenticeship commencements in the region during 1998–99 and an average level of 3675 unemployed 15–24-year-olds during the same period. The area therefore recorded a very low ratio of apprenticeship commencements to unemployed 15–24-year-olds, a ratio of 1:3.6. The remainder of non-metropolitan Western Australia recorded a ratio of almost 1:1. If the Lower Western region had matched the remainder of non-metropolitan Western Australia about 2500 additional apprenticeship commencements would have occurred in 1998–99.

### **Traditional trades**

Males comprised 88% of commencements over the four years with a decline up to 1998 followed by only a slight increase in 1999. Female participation was static over the four years.

### **Intermediate white collar**

Females formed the majority (70%) in this occupational group, and showed strong growth from 1996 to 1999, while males showed a more modest growth.

### **Basic skills**

Females comprised only 29% of commencements in this group over the four years, showing only slight growth while males on the other hand showed very strong growth.

## Queensland

### *Darling Downs – South West Queensland*

Labour force data groups South West Queensland with Darling Downs. Compared with the rest of rural Queensland this area recorded a low proportion of New Apprenticeship commencements in 1998–99, with fewer than one in ten of the population aged 15–24 starting an apprenticeship in that year. If the best ratio of apprenticeship commencements to 15–24 age group population applying elsewhere in rural Queensland could be achieved in Darling Downs–South West, more than 1000 additional apprenticeships would have been established.

Over the last four years there has been some overall growth in New Apprenticeships in the traditional trades and the intermediate white collar occupations; however, numbers in the basic skilled occupations have declined.

### *South West*

South West Queensland covers the south-western corner of that State and includes the towns of Roma and Charleville. Although covering a large area, the region provides only just over 10 000 jobs, with the highest levels of employment in the retailing, health and community services and agriculture industries.

### **Traditional trades**

Males comprised 84% of all commencements, however they showed mixed rates of growth, declining from 1996 to 1997 and again from 1998 to 1999. Females comprised very low numbers ranging from eight in 1996 to 19 in 1999.

### **Intermediate white collar**

Females predominated in this occupational group, comprising 87% of the total, increasing by 49% from 1998 to 1999 (from 77 to 115).

### **Basic skills**

Females comprise only one-third of all commencements in basic skills, and show negative growth since 1997. Following an initial increase from 1996 to 1997, males also showed negative growth in this group.

## *Darling Downs*

The Darling Downs region covers the south eastern inland of the State. It includes Dalby, Goodiwindi and part of the city of Toowoomba. There are about 65 000 persons working in the region, with the main employing industries being manufacturing, health and community services, retailing and education.

### **Traditional trades**

Males comprised 87% of commencements and show varied growth over the four years. Females showed a similar pattern of slow initial growth, an increase by one-third in 1998 and then a decrease to 20% growth in 1999.

### **Intermediate white collar**

Females predominate in this occupational group, accounting for 82% of the total, with both males and females showing strong growth over 1996 to 1998 and tapering off in 1999.

### **Basic skills**

Females comprise only 30% of commencements in this group, and show strong growth to 1998 with a decline in 1999. Males show a similar pattern of strong growth and then decline in 1999.

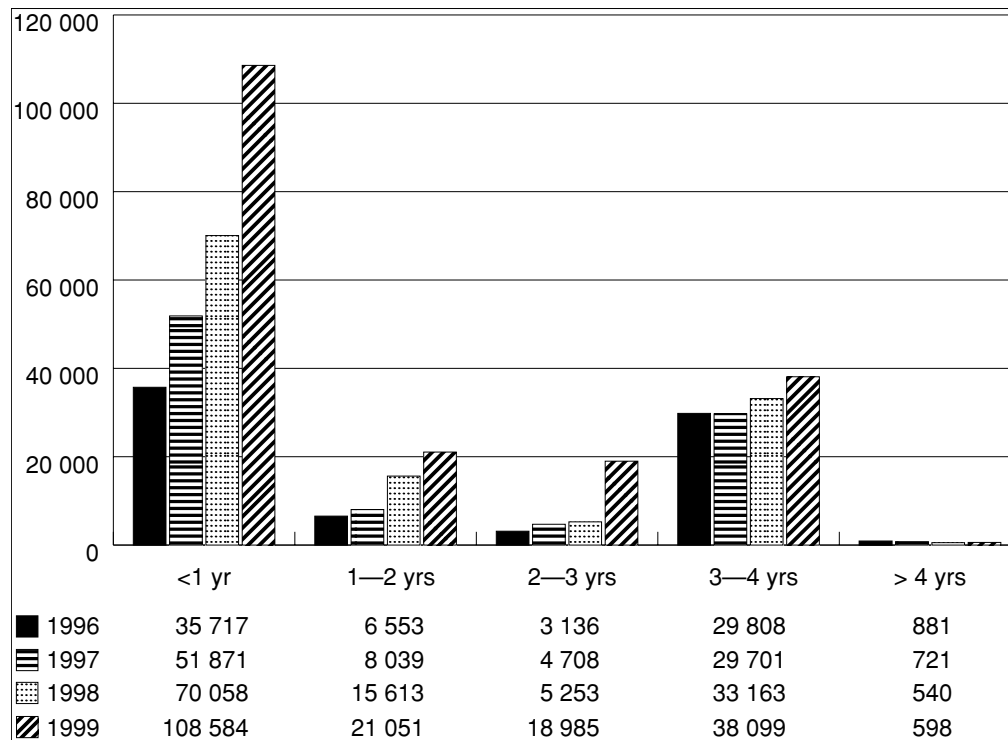
## **Apprenticeship duration**

Data on apprenticeships now include the expected duration of the apprenticeship. Confirming the trend shown in the analysis of apprenticeship occupations, it is clear that over the last four years the strongest growth has occurred in apprenticeships of less than one year's duration. Since 1995–96 apprenticeships of less than one year have grown by almost 73 000, representing 64% of total apprenticeship growth. Apprenticeship duration is also influenced by the growth in part-time apprenticeships, which are longer than their full-time equivalent. This issue is considered in a later section of this report.

Figure 4 shows the growth in apprenticeships over the last four years by expected duration.

Figure 5 shows State/Territory data for the latest year. Data by jurisdiction for 1995–96 to 1998–99 is provided in appendix 3. The data show that shorter-term apprenticeships have grown at different rates among the jurisdictions. Growth in apprenticeships of under one year was strongest in percentage terms in South Australia, Tasmania and Queensland. Among these three States, only South Australia however saw a reduction over the same period in apprenticeships longer than three years. New South Wales, Victoria, Queensland, Western Australia, Tasmania and both Territories all experienced growth in apprenticeships longer than three years between 1995–96 and 1998–99.

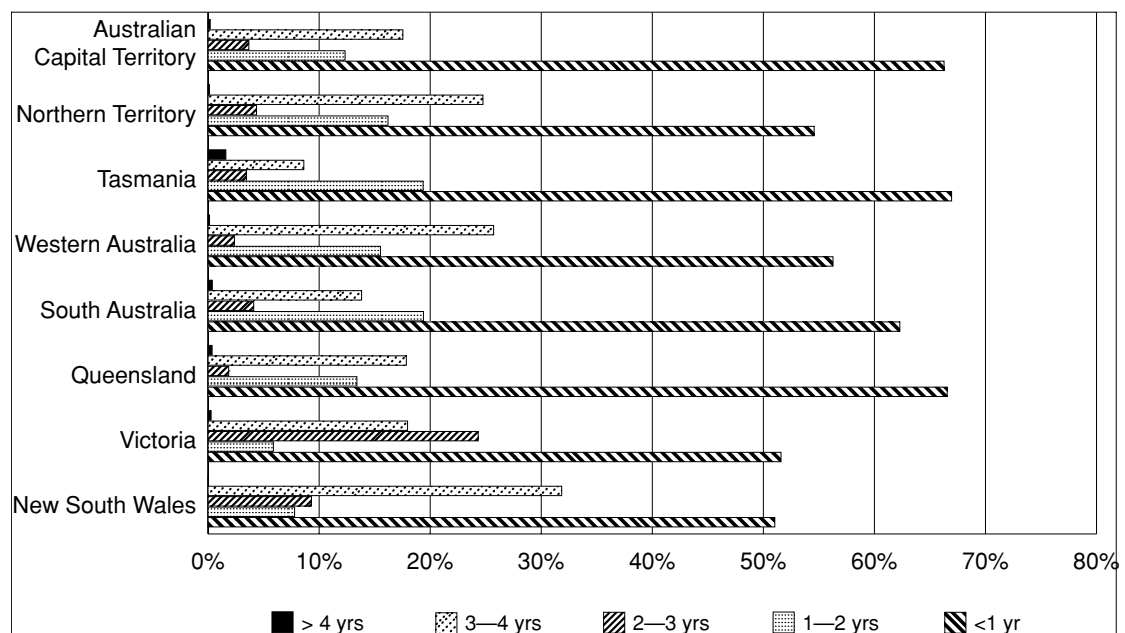
**Figure 4: Trends in expected duration of apprenticeships, Australia, 1995–96 to 1998–99**



Source: NCVER unpublished Apprenticeship and Traineeship statistics

Figure 5 shows that in every jurisdiction, apprenticeships of less than one year's duration represent at least 50% of total commencements. Only in NSW, Western Australia and the Northern Territory do apprenticeships of more than three years' duration represent more than 25% of commencements in 1998–99.

**Figure 5: Apprenticeship duration by State/Territory, 1998–99**



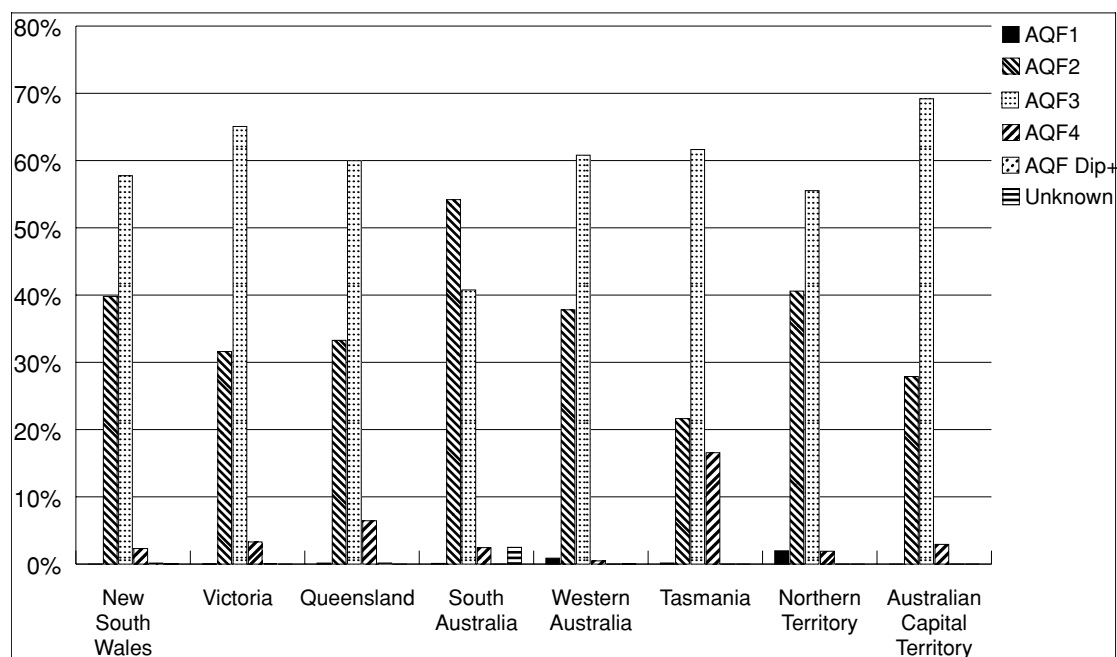
Source: NCVER unpublished Apprenticeship and Traineeship statistics

## Apprenticeship commencements by AQF qualification

In 1998–99 in all States and Territories except South Australia, the majority of commencements (at least 55%) were at the AQF 3 level. In South Australia AQF qualification 3 commencements represented just over 40% of total commencements in that year. The following chart shows the AQF profiles of each jurisdiction for 1998–99.

The profiles of the three largest States and the Australian Capital Territory are quite similar. Tasmania is prominent in having a relatively high proportion of commencements at the AQF 4 level (although numerically Queensland had the greatest number of commencements at this level). A table showing the raw data from which the following chart was constructed is provided in appendix A3 as table A3-3.

**Figure 6: Apprenticeship commencements by AQF qualification, 1998–99**



Source: NCVER unpublished Apprenticeship and Traineeship statistics

During the consultations a number of sources questioned the consistency of AQF classifications, suggesting that there had been a tendency to over-classify some courses. While this is beyond the scope of this study the issue should be studied further. The above chart shows some marked differences between the States and Territories in the AQF qualification of apprenticeship commencements in 1998–99, with South Australia and Tasmania showing some distinctive differences.

## Full-time and part-time apprenticeships

The expected duration of apprenticeships is not only determined by the occupation and required skill level of the apprenticeship. A significant proportion of apprenticeship commencements in 1998–99, over 16% nationally, were part-time. In 1995–96 only just over 2% of commencements were known to be in part-time apprenticeships. In 1998–99 more than 25% of female apprenticeship commencements were part-time, while only 9.2% of male commencements were part-time. This might in part, at least, be explained by the former apprenticeship/traineeship split, under which traineeships were more likely to be taken up by females and much more likely to be part-time.

Again the incidence of part-time apprenticeships varies substantially between the jurisdictions, from about 3.5% in the Northern Territory to more than 21% in Victoria.

**Table 10: Full-time and part-time apprenticeship commencements, 1998–99, by jurisdiction**

	<b>Part-time</b>	<b>Unknown</b>	<b>Full-time</b>	<b>Total</b>	<b>%p/t</b>
NSW	3627		34609	38236	9.5
Victoria	11367		41464	52831	21.5
Queensland	9726		40740	50466	19.3
South Australia	1448	1	18553	20002	7.2
Western Australia	1962		9807	11769	16.7
Tasmania	1912		8526	10438	18.3
Northern Territory	58		1615	1673	3.47
Australian Capital Territory	774		3428	4202	18.42

Source: NCVER unpublished Apprenticeship and Traineeship statistics

The patterns revealed in table 10 again show that the New Apprenticeships system is being implemented differently in the eight Australian jurisdictions. To some extent a high proportion of part-time apprenticeships matches the jurisdictions in which overall growth in New Apprenticeships has been strongest. South Australia however, recorded the second lowest incidence of part-time apprenticeships, while its growth for all apprenticeships has been the second highest nationally over the last four years. In Western Australia a moderately high proportion of part-time apprenticeships was recorded, despite that State showing an overall relatively low rate of growth in apprenticeship commencements.

The incidence of part-time apprenticeships does not seem to vary significantly between metropolitan and non-metropolitan areas. The variation between males and females in the incidence of part time apprenticeships has the potential to perpetuate occupationally based gender segregation—a persistent shortcoming of traditional apprenticeships.

It is suggested that further research into part-time New Apprenticeships is warranted, with a view to identifying reasons for variations between the States and Territories in the use of this mode of apprenticeship. It is also likely that a greater use of this mode could reduce some of the disparities that exist in overall commencements between the States and Territories.

# Technical notes on data sources

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Four main sources of statistical data are used in this report. The main features of each source are briefly discussed below.

## Apprenticeship statistics

Data on New Apprenticeships are gathered from the records maintained by State and Territory training authorities and forwarded to the National Centre for Vocational Education Research for collation into the national collection. For the purposes of this study, one of the main shortcomings of this collection is the inadequacy of coding of apprentices by industry of employment. One State does not attempt to undertake this coding and there are doubts over the accuracy of industry coding available from the other jurisdictions. A major reason for this difficulty is the requirement for coders to know the details of individual enterprises' financial turnover by product category in order to code accurately to ANZSIC standards. The problem arises especially in relation to multi-product enterprises.

In this report the terms apprentice and apprenticeship are used to include what were trainees and traineeships, unless stated otherwise.

Apprenticeship statistics used in this report are for the financial years 1995–96, 1996–97, 1997–98 and 1998–99. Data for the latest year are based on September quarter adjustments for the financial year to allow for lags that can occur in notifications of commencements.

## ABS data

Three main ABS sources are used in this report:

- ❖ The Labour force survey for August 1998, November 1998, February 1999 and May 1999
- ❖ The Integrated register of businesses (locations for September 1998)
- ❖ The 1996 *Census of population and housing*

The labour force data are based on a carefully constructed sample survey of Australian households. In this report the data from the four quarters' surveys have been averaged to improve the reliability of estimates for regional data. The authors have constructed year average data from the four quarters of Labour force survey data to overcome seasonal factors than can affect labour force data for young people. Year average data are used unless otherwise stated.

The Integrated business register is a less well-known source of ABS data on employment. It represents a register of every business unit location known to the ABS in Australia and is constantly updated. Data in this report are as at September 1998. Data on numbers of persons employed (no gender breakdown is collected) by location are available from this source, together with the number of business locations. Data were obtained by statistical division for all areas of Australia, while further data for the main metropolitan areas were also obtained by statistical sub-division. Industry coding in this collection is more accurate than in the Labour force survey because, unlike the Labour force survey, industry coding is not dependent on the description of an employer's activities by an intermediary.

The 1996 Census is also used in this report as a supplement to Labour force survey and Integrated business register data. The age of census data is a limitation at this stage.

These ABS data sources all have limitations in relation to this project. The Labour force survey data which are used to provide estimates of youth employment and unemployment for geographical regions is based on a small sample of Australian households, a sample of less than half of 1%. The survey employs the 'any responsible adult' method, which means that one adult in each household normally responds to the survey in relation to all persons in that household. One consequence of this is that, in order to undertake analysis at small geographic unit levels such as statistical sub-divisions, some compromises have to be made in the fineness of detail in other variables. In this case one trade-off has been to amalgamate two ABS age groups, 15–19 and 20–24-year-olds into one age group in order to have more reliable data at the small geographical level.

This difficulty has been partly addressed also by using year average data for the two age groups combined from the four quarterly Labour force surveys (May, August, November and February) rather than using one point in time data. There is nevertheless, no doubt that there are some overall differences in the labour market conditions for these two age groups that might be pertinent to New Apprenticeships; however, there are also labour market similarities, especially in terms of their relative labour market disadvantage vis à vis older age groups (for example, Curtain 1999).

Labour force survey data are also presented in terms of 'labour force regions', which are geographical entities whose boundaries do not completely correspond with ABS statistical divisions and sub-divisions. Hence, statistical analysis in this paper that uses both these sources (together with NCVET data on apprenticeship commencements provided by ABS statistical division and sub-division) is limited by some boundary inconsistencies.

# References

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- Anderson, J 1999, 'Regional Australia—meeting the challenges—business and jobs', statement by the Honourable John Anderson MP, Minister for Transport and Regional Services and Senator, the Honourable Ian Macdonald, Minister for Regional Services, Territories and Local Government, 11 May 1999.
- ABS (Australian Bureau of Statistics) 1998a, *Transition from education to work—May 1998*, cat. no. 6227.0, Canberra.
- 1998b, *Integrated register of businesses*, selected tables for September 1998, Canberra.
- 1999a, *Labour force Australia, May 1999*, Cat. no. 6203.0, Canberra.
- 1999b, *Monthly labour force survey* (selected published and unpublished data from August 1998 to May 1999), Canberra.
- 1996, *Census of population and housing*, selected tables, Canberra.
- Australian Chamber of Commerce & Industry 1997, *Northern Australia skill shortages report*, December 1997.
- Committee of Inquiry into Labour Market Programs (Chair, Peter Kirby) 1985, *Report of the Committee of Inquiry into Labour Market Programs* (Kirby report) AGPS, Canberra.
- Curtain, R 1999, *Young people's transition from education to work: Performance indicators*, Dusseldorp Skills Forum, Sydney.
- DEETYA (Department of Employment, Education, Training and Youth Affairs) 1998, *Apprentices labour market, Victoria, August 1998*, Victorian Labour Economics Office, DEETYA, Melbourne.
- DETIR (Queensland Department of Employment, Training and Industrial Relations) 2000, 'Submission to the Senate Committee Inquiry into the Quality of Vocational Education and Training in Australia', Brisbane, [www.detir.qld.gov.au/internet.htm](http://www.detir.qld.gov.au/internet.htm) [accessed March 2000].
- DETYA (Department of Education, Training and Youth Affairs) 2000, *Attrition in apprenticeships: An analysis of apprentices commencing between July 1994 and June 1996*, DETYA Research and Evaluation Branch, Canberra.
- DEWRSB (Department of Employment, Workplace Relations, and Small Business) 1998, *The labour market for apprentices in New South Wales 1998*, Occupational Analysis and Migration Unit, New South Wales Labour Economics Office, Department of Employment, Workplace Relations and Small Business, Sydney.
- 1999a, *Work location and travel: Selected NSW regions, March 1999*, NSW Labour Economics Office, Sydney.
- 1999b, 'Youth labour trends in NSW', NSW Labour Economics Office, Department of Employment, Workplace Relations and Small Business, Sydney, [www.dewrsb.gov.au/group\\_imp/files/nsw\\_leo/other\\_labmkt\\_%20info/\\_Toc460141658](http://www.dewrsb.gov.au/group_imp/files/nsw_leo/other_labmkt_%20info/_Toc460141658) [accessed April 2000].
- Freeland, J 1995, 'Citizenship postponed: Young people's transition to and policies for active citizenship', paper presented to the *Jobs for young Australians* conference, Adelaide, Future of Work Commission, Australian Council of Social Service, Melbourne.
- Le, Anh T & Miller, PW 1999, *A risk index approach to unemployment—an application using the survey of employment and unemployment patterns*, Australian Bureau of Statistics occasional paper, 6293.0.00.001, Canberra.
- Manufacturing Learning Australia (undated brochure), 'Make something with your life', Sydney.
- Marshman, R 1998, *On the brink of crisis? vol.1: Analysis, conclusions and recommendations*, Engineering Skills Board (Vic.) Inc., Melbourne.
- NCVER (National Centre for Vocational Education Research) 1999, *Student outcomes survey 1999 national report*, NCVER, Adelaide.
- NIEIR (National Institute of Economic and Industry Research) 1999, 'Tale of Two Cities', GROW Employment Council (a summary of this study appears at [www.grow.org.au/new/](http://www.grow.org.au/new/)) [accessed April 2000].

- QCCI (Queensland Chamber of Commerce and Industry) 2000, *The problems of marginalised youth in Australia—an industry perspective*, Queensland Chamber of Commerce and Industry, Brisbane.
- Schofield, K 1999a, *Independent investigation into the quality of training in Queensland's traineeship system: Final report*, 2 July 1999, Queensland Department of Employment, Training and Industrial Relations, Brisbane.
- 1999b, *A risky business—a review of the quality of Tasmania's traineeship system*, Kaye Schofield and Associates, Hobart.

# Appendix 1: Australian labour market statistics

**Table A1-1: Labour market regions, States/Territories and metropolitan areas**

**NSW: Persons aged 15–24, May 1999, employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed (‘000s)</b>	<b>Total unemployed (‘000s)</b>	<b>Unemployment rate</b>
Inner Sydney and Inner Western Sydney Statistical Regions	36.7	3.2	8.0%
Eastern Suburbs Statistical Region	27.3	3.4	11.1%
St George–Sutherland Statistical Region	38.7	1.6	4.0%
Canterbury–Bankstown Statistical Region	26.2	3.2	10.9%
Fairfield–Liverpool and Outer South Western Sydney Statistical Regions	47.6	10.8	18.5%
Central Western Sydney Statistical Region	22.6	2.0	8.1%
Outer Western Sydney SR and Blacktown	50.6	6.6	11.5%
Lower Northern Sydney Statistical Region	22.5	0.6	2.6%
Hornsby–Ku-ring-gai SR and Baulkham Hills	35.0	3.4	8.9%
Northern Beaches Statistical Region	23.7	0.7	2.9%
Gosford–Wyong Statistical Region	22.4	2.6	10.4%
Hunter Statistical Region	45.5	8.4	15.6%
Illawarra and South Eastern Statistical Regions	38.0	8.9	19.0%
Richmond–Tweed and Mid-North Coast Statistical Regions	34.1	8.3	19.6%
Northern, Far West–North Western and Central West Statistical Regions	33.0	4.3	11.5%
Murray–Murrumbidgee Statistical Region	21.5	4.7	17.9%

## Sydney

Region	Population aged 15–24 (5/99)	Total jobs in area	Ratio 15–24 population:jobs	Unemployed 15-24 (yr av. 98–99)	15–24 unemployment rate (5/99)
Inner Sydney–Inner West	61 700	515 947	1:8.4	3 900	8.0%
Eastern Suburbs	46 500	77 668	1:1.7	1 975	11.1%
St George–Sutherland	56 800	112 131	1:2	2 800	4.0%
Canterbury–Bankstown	46 500	108 669	1:2.3	3 200	10.9%
Fairfield–Liverpool–Outer South West	85 700	149 024	1:1.7	9 525	18.5%
Central West	40 300	158 072	1:3.9	2 225	8.1%
Outer West–Blacktown	83 200	129 638*	1:1.6	7 025	11.5%
Lower North Shore	34 900	207 461	1:5.9	1 150	2.6%
Hornsby–Kuring-gai–Baulkham Hills	54 900	119 700*	1:2.2	3 375	8.9%
Northern Beaches	29 400	78 046	1:2.7	950	2.9%
Gosford–Wyong	36 000	70 448	1:2	3 525	10.4%

\* estimates based on 50/50 distribution of the Blacktown–Baulkham Hills statistical sub-division data.

**Victoria: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed (‘000s)</b>	<b>Total unemployed (‘000s)</b>	<b>Unemployment rate</b>
Outer Western Melbourne Statistical Region	53.5	8.7	14.0%
North Western Melbourne Statistical Region	24.9	3.8	13.2%
Inner Melbourne Statistical Region	24.6	2.6	9.6%
North Eastern Melbourne Statistical Region	34.6	5.1	12.8%
Inner Eastern Melbourne Statistical Region	51.3	6.1	10.6%
Southern Melbourne Statistical Region	26.9	4.4	14.1%
Outer Eastern Melbourne Statistical Region	30.3	4.8	13.7%
South Eastern Melbourne Statistical Region	34.4	5.5	13.8%
Mornington Peninsula Statistical Region	17.6	4.1	18.9%
Barwon–Western District Statistical Region	31.4	4.2	11.8%
Central Highlands–Wimmera Statistical Region	17.6	3.3	15.8%
Loddon–Mallee Statistical Region	14	3.7	20.9%
Goulburn–Ovens–Murray Statistical Region	18.4	1.8	8.9%
All Gippsland Statistical Region	13.6	3.8	21.7%

**Melbourne**

<b>Region</b>	<b>Population aged 15–24 (5/99)</b>	<b>Total jobs in area</b>	<b>Ratio 15–24 population:jobs</b>	<b>Unemployed 15-24 (yr av. 98–99)</b>	<b>15–24 unemployment rate (5/99)</b>
Outer West	83 900	26 327	1:0.3	8 950	14.0%
North West	38 300	94 238	1:2.5	3 700	13.2%
Inner Melbourne	46 500	428 793	1:9.2	2 825	9.6%
North East	57 300	122 167	1:2.1	6 300	12.8%
Inner East	88 300	222 753	1:2.5	5 950	10.6%
South Melbourne	44 900	148 280	1:3.3	4 200	14.1%
Outer East	51 500	119 726	1:2.3	5 600	13.7%
South East	56 900	106 040	1:1.9	5 125	13.8%
Mornington Peninsula	27 400	56 057	1:2.0	3 350	18.9%

**Queensland: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed (‘000s)</b>	<b>Total unemployed (‘000s)</b>	<b>Unemployment rate</b>
Brisbane City Inner Ring Statistical Region	46.1	4.3	8.5%
Brisbane City Outer Ring Statistical Region	45.3	9.3	17.1%
South and East BSD Balance Statistical Region	28.9	6.3	17.9%
North and West BSD Balance Statistical Region	31.3	9.1	22.5%
South and East Moreton Statistical Region	37.3	4.7	11.2%
North and West Moreton Statistical Region	23.4	6.3	21.2%
Wide Bay-Burnett Statistical Region	15.2	2.2	12.6%
Darling Downs–South West Statistical Region	21.3	1.7	7.4%
Mackay–Fitzroy–Central West Statistical Region	30.7	8.5	21.7%
Northern–North West Statistical Region	21.6	2.5	10.4%
Far North Statistical Region	17.2	2.5	12.7%
Gold Coast City Parts A and B Statistical Region Sectors	41	5.4	11.7%

**Brisbane**

<b>Region</b>	<b>Population aged 15–24 (5/99)</b>	<b>Total jobs in area</b>	<b>Ratio 15–24 population:jobs</b>	<b>Unemployed 15–24 (yr av. 98–99)</b>	<b>15–24 unemployment rate (5/99)</b>
Brisbane Inner Ring				5 175	8.5%
Brisbane Outer Ring	149 400	491 308	1:3.3	8 575	17.1%
North & West Brisbane	53 800	84 422	1:1.6	7 900	22.5%
South & East Brisbane	48 200	74 768	1:1.6	6 825	17.9%

**South Australia: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed ('000s)</b>	<b>Total unemployed ('000s)</b>	<b>Unemployment rate</b>
Northern Adelaide Statistical Region	29	8.3	22.3%
Western Adelaide Statistical Region	17.7	3.6	16.8%
Eastern Adelaide Statistical Region	19	3.1	14.0%
Southern Adelaide Statistical Region	24.9	5.2	17.2%
Northern and Western SA Statistical Region	10.5	3.1	22.8%
Southern and Eastern SA Statistical Region	14.7	3.9	21.0%

**Adelaide**

<b>Region</b>	<b>Population aged 15–24 (5/99)</b>	<b>Total jobs in area</b>	<b>Ratio 15–24 population:jobs</b>	<b>Unemployed 15-24 (yr av. 98–99)</b>	<b>15–24 unemployment rate (5/99)</b>
Northern Adelaide	51 600	81 690	1:1.6	7 800	22.3%
Western Adelaide	30 100	108 475	1:3.6	3 700	16.8%
Eastern Adelaide	32 500	160 608	1:4.9	2 825	14.0%
Southern Adelaide	40 300	82 045	1:2.0	4 300	17.2%

**Western Australia: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed ('000s)</b>	<b>Total unemployed ('000s)</b>	<b>Unemployment rate</b>
Central Metropolitan Statistical Region	9.2	2.2	19.3%
East Metropolitan Statistical Region	18.4	1.7	8.5%
North Metropolitan Statistical Region	44.0	8.9	16.9%
South West Metropolitan Statistical Region	27.9	2.9	9.4%
South East Metropolitan Statistical Region	29.7	3.6	10.8%
Lower Western WA Statistical Region	19.2	3.3	14.7%
Remainder-Balance WA Statistical Region	22.4	2.2	8.9%

**Perth**

<b>Region</b>	<b>Population aged 15–24 (5/99)</b>	<b>Total jobs in area</b>	<b>Ratio 15–24 population:jobs</b>	<b>Unemployed 15–24 (yr av. 98–99)</b>	<b>15–24 unemployment rate (5/99)</b>
Central	18 800	173 049	1:9.2	2 200	19.3%
East	28 500	61 660	1:2.2	1 700	8.5%
North	72 900	102 776	1:1.4	8 900	16.9%
South West	42 300	91 346	1:2.2	2 900	9.4%
South East	49 200	128 000	1:2.6	3 600	10.8%

**Tasmania: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed (‘000s)</b>	<b>Total unemployed (‘000s)</b>	<b>Unemployment rate</b>
Greater Hobart–Southern Statistical Region Sector	18.7%	94.8	9.9%
Northern Statistical Region Sector	17.6%	58.5	8.3%
Mersey–Lyell Statistical Region Sector	32.7%	43.4	11.1%

The Greater Hobart Region is just one statistical sub-division, while the labour market region that contains Hobart also includes the Southern sub-division.

**The Territories: Persons aged 15–24, May 1999 employed, unemployed and unemployment rates**

<b>Region</b>	<b>Total employed (‘000s)</b>	<b>Total unemployed (‘000s)</b>	<b>Unemployment rate</b>
Northern Territory	96.3	3.9	3.9%
Australian Capital Territory	159.0	10.2	6.0%

Separate labour market data from the labour force survey for regions within Darwin and Canberra are not available.

# Appendix 2: Apprenticeship commencements to total jobs, Australia

**Table A2-1: Apprenticeship commencements and total employment, States/Territories and metropolitan areas**

## NSW

Statistical division	Apprenticeship commencements 1998–99	Total jobs (IRB)	Apprenticeship commencements:jobs
Sydney	22 127	1 726 725	78.0
Hunter	3 025	190 816	63.1
Illawarra	2 714	112 359	41.4
Richmond–Tweed	1 482	54 500	36.8
Mid-North Coast	1 314	70 840	53.9
Northern	1 383	57 744	41.7
North Western	974	37 933	38.9
Central West	1 327	58 851	44.3
South Eastern	1 561	54 602	35.0
Murrumbidgee	1 552	50 783	32.7
Murray	1 140	38 744	34.0
Far West	81	6 978	86.1
Total non-metrop. NSW	16 553	734 150	44.3
<b>NSW</b>	<b>38 680</b>	<b>2 460 875</b>	<b>63.6</b>

## Victoria

Statistical division	Apprenticeship commencements	Total jobs	Apprenticeship commencements:jobs
Melbourne	35 670	1 459 678	40.9
Barwon	3 212	77 072	24.0
Western District	1 077	32 470	30.1
Central Highlands	1 612	44 316	27.5
Wimmera	675	16 534	24.5
Mallee	1 248	29 753	23.8
Loddon	2 433	44 694	18.4
Goulburn	2 358	57 634	24.4
Ovens–Murray	1 358	31 732	23.4
East Gippsland	643	23 705	36.9
Gippsland	1 985	47 702	24.0
Total non-metrop. VIC	16 601	405 612	24.4
<b>VIC</b>	<b>52 271</b>	<b>1 865 290</b>	<b>35.7</b>

## Queensland

Statistical division	Apprenticeship commencements	Total jobs	Apprenticeship commencements:jobs
Brisbane	20 767	650 445	31.3
Moreton	8 409	204 040	24.3
Wide Bay-Burnett	3 059	60 172	19.7
Darling Downs	2 673	63 579	23.8
South West	356	10 281	28.9
Fitzroy	3 146	66 172	21.0
Central West	187	4 625	24.7
Mackay	2 072	47 700	23.0
Northern	3 926	69 446	17.7
Far North	4 468	84 085	18.8
North West	752	16 738	22.3
Total non-metrop. QLD	29 048	626 838	21.6
<b>QLD</b>	<b>78 863</b>	<b>1 904 121</b>	<b>24.1</b>

## South Australia

Statistics division	Apprenticeship commencements	Total jobs	Apprenticeship commencements:jobs
Adelaide	13 684	428 483	31.3
Outer Adelaide	1 387	24 220	17.5
Yorke and Lower North	480	10 149	21.1
Murray Lands	1 485	19 298	13.0
South East	1 450	23 529	16.2
Eyre	520	10 277	19.8
Northern	850	25 414	29.9
Total non-metrop. SA	6 172	112 887	18.3
<b>SA</b>	<b>26 028</b>	<b>654 257</b>	<b>25.1</b>

## Western Australia

Statistical Division	Apprenticeship commencements	Total jobs	Apprenticeship commencements:jobs
Perth	7 840	556 793	71.0
South West	1 017	54 502	53.6
Lower Great Southern	852	15 924	18.7
Upper Great Southern	106	6 433	60.7
Midlands	223	15 424	69.2
South Eastern	500	27 656	55.3
Central	403	23 258	57.7
Pilbara	289	23 745	82.2
Kimberley	191	11 594	60.7
Total non-metrop. WA	3 581	178 536	49.9
<b>WA</b>	<b>15 002</b>	<b>913 865</b>	<b>60.9</b>

**Table A2-2: Apprenticeship commencements, 15–24 age group population and 15–24 age group unemployment ratios, by metropolitan labour market regions, 1998–99**

<b>NSW</b>							
<b>IBR AND APP STAT DIVS</b>	<b>APP:EMP</b>	<b>UNEMP %</b>	<b>APP:POP</b>	<b>APP:UNEMP</b>	<b>%pop</b>	<b>%comm</b>	
10505 Inner Sydney–Inner West	259.8	11%	27.3	2.0	9%	9%	
10510 Eastern Suburbs	94.3	8%	51.1	2.4	7%	4%	
10515 St George–Sutherland	52.2	7%	26.6	1.3	10%	10%	
10520 Canterbury–Bankstown	59.8	12%	24.6	1.8	8%	8%	
10525 Fairfield–Liverpool & Outer South West	38.7	17%	22.4	2.5	15%	17%	
10540 Central Western Sydney	92.1	9%	23.5	1.3	7%	8%	
10545 Outer West Sydney & Blacktown	35.2	12%	24.1	1.9	15%	17%	
10555 Lower Northern Sydney	244.1	6%	39.1	1.3	6%	4%	
10560 Hornsby–Ku-ring-gai & Baulkham Hills	54.8	7%	30.4	1.6	12%	10%	
10565 Northern Beaches	63.7	4%	24.0	0.8	5%	6%	
10570 Gosford–Wyong	38.2	15%	17.4	1.9	6%	8%	
					100%	100%	
<b>VIC</b>							
<b>IBR AND APP COMM STAT DIVS</b>	<b>APP:EMP</b>	<b>UNEMP %</b>	<b>APP:POP</b>	<b>APP:UNEMP</b>	<b>%pop</b>	<b>%comm</b>	
20520 Melton–Wyndham/West Melbourne	24.5	15%	12.2	1.4	16%	19%	
20525 Hume & Moreland City	33.3	13%	13.5	1.3	8%	8%	
20505 Inner Melbourne	186.9	11%	16.9	1.2	8%	6%	
Nth Outer & Nth Mid Melbourne	27.5	14%	13.9	1.4	13%	12%	
20550 Eastern Middle Melbourne–Boroondara City	49.7	11%	19.9	1.3	18%	13%	
20555 Eastern Outer Melbourne/Yarra Ranges Part A	25.8	13%	13.1	1.2	12%	13%	
20565 Southern Melbourne	47.4	14%	14.8	1.3	9%	9%	
20580 South East Outer Melbourne/Dandenong	24.0	14%	11.9	1.2	11%	12%	
20585 Frankston/ Mornington Peninsula	20.2	16%	9.6	1.2	5%	8%	
					100%	100%	
<b>WA</b>							
<b>IBR AND APP STAT DIVS</b>	<b>APP:EMP</b>	<b>UNEMP %</b>	<b>APP:POP</b>	<b>APP:UNEMP</b>	<b>%pop</b>	<b>%comm</b>	
50505 Central Metropolitan Perth	455.4	21%	49.3	6.1	9%	5%	
50510 East Metropolitan	44.2	11%	21.5	1.7	14%	18%	
50515 North Metropolitan	41.2	13%	30.3	3.0	36%	32%	
50520 South West Metropolitan	55.1	11%	24.3	2.0	19%	21%	
50525 South East Metropolitan	67.6	14%	24.3	2.4	22%	24%	
<b>SA</b>							
<b>IBR AND APP STAT DIVS</b>	<b>APP:EMP</b>	<b>UNEMP %</b>	<b>APP:POP</b>	<b>APP:UNEMP</b>	<b>%pop</b>	<b>%comm</b>	
40505 Northern Adelaide	17.6	21%	11.1	1.7	33%	35%	
40510 Western	44.0	18%	11.5	1.5	18%	18%	
40515 Eastern	83.5	12%	17.8	1.5	22%	14%	
40520 Southern (SA)	18.7	15%	9.1	1.0	26%	33%	
<b>QLD</b>							
<b>IBR AND APP STAT DIVS</b>	<b>APP:EMP</b>	<b>UNEMP %</b>	<b>APP:POP</b>	<b>APP:UNEMP</b>	<b>%pop</b>	<b>%comm</b>	
30505 Brisbane City	50.6	13%	15.3	1.4	59%	48%	
South and East BSD Balance Statistical Region	14.1	20%	9.2	1.3	20%	26%	
North and West BSD Balance Statistical Region	15.7	21%	10.0	1.5	21%	26%	
					100%	100%	

Source: w-CITYAPPLFIBRCOLLAPS

**Table A2-3: Apprenticeship commencements, business locations, employment and apprenticeship commencement ratios by metropolitan statistical sub-divisions**

IBR Stat Sub-div. as at Sept 1998	Locations	Employment	% emp.	Sum of apprenticeship commencements 1999			
				1999	% app. comm.	app: emp.	
<b>Sydney</b>							
Inner Sydney	35 329	450 242	26%	Inner Sydney	1 383	6%	325.6
Eastern Suburbs	12 869	77 668	4%	Eastern Suburbs	824	4%	94.3
Subtotal St George– Sutherland	18 299	112 131	6%	St George– Sutherland	2 148	10%	52.2
Canterbury– Bankstown	12 005	108 669	6%	Canterbury- Bankstown	1 817	8%	59.8
Fairfield–Liverpool	11 859	98 812	6%	Fairfield–Liverpool	1 959	9%	50.4
Outer South Western Sydney	7 528	50 212	3%	Outer South Western Sydney	1 890	9%	26.6
Inner Western Sydney	8 535	65 705	4%	Inner Western Sydney	603	3%	109.0
Central Western Sydney	14 034	158 072	9%	Central Western Sydney	1 716	8%	92.1
Outer Western Sydney	12 193	77 406	4%	Outer Western Sydney	2 263	10%	34.2
Blacktown–Baulkham Hills	14 858	104 464	6%	Blacktown–Baulkham Hills	2 844	13%	36.7
Lower Northern Sydney	24 504	207 461	12%	Lower Northern Sydney	850	4%	244.1
Hornsby Ku-ring-gai	12 984	67 468	4%	Hornsby Ku-ring-gai	761	3%	88.7
Northern Beaches	14 326	78 046	5%	Northern Beaches	1 225	6%	63.7
Gosford–Wyong	10 937	70 448	4%	Gosford–Wyong	1 844	8%	38.2
<b>Subtotal</b>	<b>210 260</b>	<b>1 726 804</b>	<b>100%</b>		<b>22 127</b>	<b>100%</b>	<b>78.0</b>
<b>Melbourne</b>							
Inner Melbourne	34 018	428 793	29%	Inner Melbourne	2 294	6%	186.9
Western Melbourne	15 380	135 451	9%	Western Melbourne	4 510	13%	30.0
Melton–Wyndham	4 027	26 327	2%	Melton–Wyndham	2 101	6%	12.5
Moreland City	5 313	40 662	3%	Moreland City	1 335	4%	30.5
Northern Middle Melbourne	10 811	86 296	6%	Northern Middle Melbourne	2 528	7%	34.1
Hume City	4 369	53 576	4%	Hume City	1 495	4%	35.8
Northern Outer Melbourne	6 344	35 871	2%	Northern Outer Melbourne	1 919	5%	18.7
Boroondara City	9 624	61 348	4%	Boroondara City	716	2%	85.7
Eastern Middle Melbourne	20 971	161 405	11%	Eastern Middle Melbourne	3 762	11%	42.9
Eastern Outer Melbourne	12 558	90 960	6%	Eastern Outer Melbourne	2 674	8%	34.0
Yarra Ranges Shire	6 581	28 766	2%	Yarra Ranges Shire Part A	1 972	6%	14.6
Southern Melbourne	21 785	148 280	10%	Southern Melbourne	3 125	9%	47.4
Greater Dandenong City	7 165	70 416	5%	Greater Dandenong City	1 477	4%	47.7
South Eastern Outer Melbourne	7 499	35 624	2%	South Eastern Outer Melbourne	2 938	8%	12.1
Frankston City	4 586	27 790	2%	Frankston City	1 489	4%	18.7
Mornington Peninsula	5 654	28 267	2%	Mornington Peninsula Shire	1 284	4%	22.0
<b>Subtotal</b>	<b>176 685</b>	<b>1 459 832</b>	<b>100%</b>		<b>35 619</b>	<b>100%</b>	<b>41.0</b>
<b>Brisbane</b>							
Brisbane City	51 024	491 308	76%	Brisbane City	9 708	48%	50.6
Gold Coast	1 755	9 609	1%	Gold Coast City Part A	822	4%	11.7
Beaudsesert	411	812	0%	Beaudsesert Shire Part A	356	2%	2.3

Caboolture	3 017	15 601	2%	Caboolture Shire	1 413	7%	11.0
Ipswich	3 978	34 478	5%	Ipswich City (Part in BSD)	1 785	9%	19.3
Logan City	6 813	43 628	7%	Logan City	2 532	12%	17.2
Pine Rivers	4 310	21 946	3%	Pine Rivers Shire	1 559	8%	14.1
Redcliffe City	1 926	12 397	2%	Redcliffe City	617	3%	20.1
Subtotal Redland Shire	4 080	20 719	3%	Redland Shire	1 605	8%	12.9
<b>Subtotal</b>	<b>77 314</b>	<b>650 498</b>	<b>100%</b>		<b>20 397</b>	100%	31.9
<b>Adelaide</b>							
Northern Adelaide	9 434	81 690	19%	Northern Adelaide	4 650	35%	17.6
Western Adelaide	9 365	108 475	25%	Western	2 465	18%	44.0
Eastern Adelaide	18 211	160 608	37%	Eastern	1 923	14%	83.5
Southern Adelaide	10 210	82 045	19%	Southern (SA)	4 399	33%	18.7
<b>Subtotal</b>	<b>47 220</b>	<b>432 818</b>	<b>100%</b>		<b>13 437</b>	100%	32.2
<b>Perth</b>							
Central Metropolitan WA	16 975	173 049	31%	Central Metropolitan Perth	380	5%	455.4
East Metropolitan WA	9 203	61 660	11%	East Metropolitan	1 395	18%	44.2
North Metropolitan	15 392	102 776	18%	North Metropolitan	2 492	32%	41.2
South West Metropolitan	11 862	91 346	16%	South West Metropolitan	1 658	21%	55.1
South East Metropolitan	14 624	128 000	23%	South East Metropolitan	1 894	24%	67.6
<b>Subtotal</b>	<b>68 056</b>	<b>556 831</b>	<b>100%</b>		<b>7 819</b>	100%	71.2
<b>TASMANIA</b>							
Greater Hobart	9 185	82 767	100%				
<b>Subtotal</b>	<b>9 185</b>	<b>82 767</b>					
<b>NORTHERN TERRITORY</b>							
Darwin City	4 364	37 430	93%				
Palmerston East	379	2 715	7%				
<b>Subtotal</b>	<b>4 743</b>	<b>40 145</b>	<b>100%</b>				
<b>ACT</b>							
North Canberra	2 958	50 684	33%				
Belconnen	2 529	23 931	15%				
Woden Valley	1 579	18 936	12%				
Weston Creek Stromlo	729	3 964	3%				
Tuggeranong	2 121	15 366	10%				
South Canberra	3 325	37 910	24%				
Gungahlin-Hall	603	4 270	3%				
<b>Subtotal</b>	<b>13 844</b>	<b>155 061</b>	<b>100%</b>				

# Appendix 3: Apprenticeships by jurisdiction

**Table A3-1: Commencements by expected duration**

## Apprenticeship commencements by expected duration, Australia

Total	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	35 717	6 553	3 136	29 808	881	83	76 178
1997	51 871	8 039	4 708	29 701	721	346	95 386
1998	70 058	15 613	5 253	33 163	540	532	125 159
1999	108 584	21 051	18 985	38 099	598	2 300	189 617
%change	204.0	221.2	505.4	27.8	-32.1	2 671.1	148.9

## Apprenticeship commencements by expected duration, NSW

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	Total
1996	10 068	285	718	12 557	25	23 653
1997	13 689	291	747	11 361	13	26 101
1998	16 450	1 129	981	11 665	11	30 236
1999	19 510	2 979	3 560	12 174	13	38 236
%change	93.8	945.3	395.8	-3.0	-48.0	61.6

## Apprenticeship commencements by expected duration, Victoria

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	10 080	2 095	696	5 883	116	3	18 873
1997	14 245	2 376	737	6 965	97	9	24 429
1998	14 638	3 080	1 934	8 790	77	9	28 528
1999	27 253	3 104	12 847	9 486	141	0	52 831
%change	170.4	48.2	1 745.8	61.2	21.5	-100	179.9

## Apprenticeship commencements by expected duration, Queensland

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	7 972	2 499	899	4 571	239	75	16 255
1997	12 340	3 223	2 436	4 217	204	330	22 750
1998	22 062	7 287	1 434	5 448	144	512	36 887
1999	32 063	6 454	889	8 598	175	2 287	50 466
%change	302.2	158.3	-1.1	88.1	-26.8	2 949.3	210.5

## Apprenticeship commencements by expected duration, South Australia

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	1 803	458	98	2 873	228		5 460
1997	2 789	533	101	3 242	178		6 843
1998	5 350	2 404	417	2 773	168	7	11 119
1999	12 458	3 879	822	2 765	77	1	20 002
%change	590.9	746.9	738.8	-3.8	-66.2		266.3

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**Apprenticeship commencements by expected duration, Western Australia**

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	Total
1996	2 792	586	437	2 521	236	6 572
1997	4 894	767	437	2 681	204	8 983
1998	6 773	689	233	3 066	125	10 886
1999	6 622	1 827	279	3 026	15	11 769
%change	137.2	211.8	-36.1	20.0	-93.6	79.1

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**Apprenticeship commencements by expected duration, Tasmania**

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	1 365	297	125	639	12	5	2 443
1997	1 825	306	88	527	17	5	2 768
1998	2 434	447	154	554	9	4	3 602
1999	6 981	2 019	361	899	167	11	10 438
%change	411.4	579.8	188.8	40.7	1 291.7	120	327.3

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**Apprenticeship commencements by expected duration, Northern Territory**

	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	658	315	132	136	13		1 254
1997	899	378	127	180	3	2	1 589
1998	991	485	52	250			1 778
1999	913	271	73	414	2		1 673
%change	38.7	-13.9	-44.7	204.4	-84.6		33.4

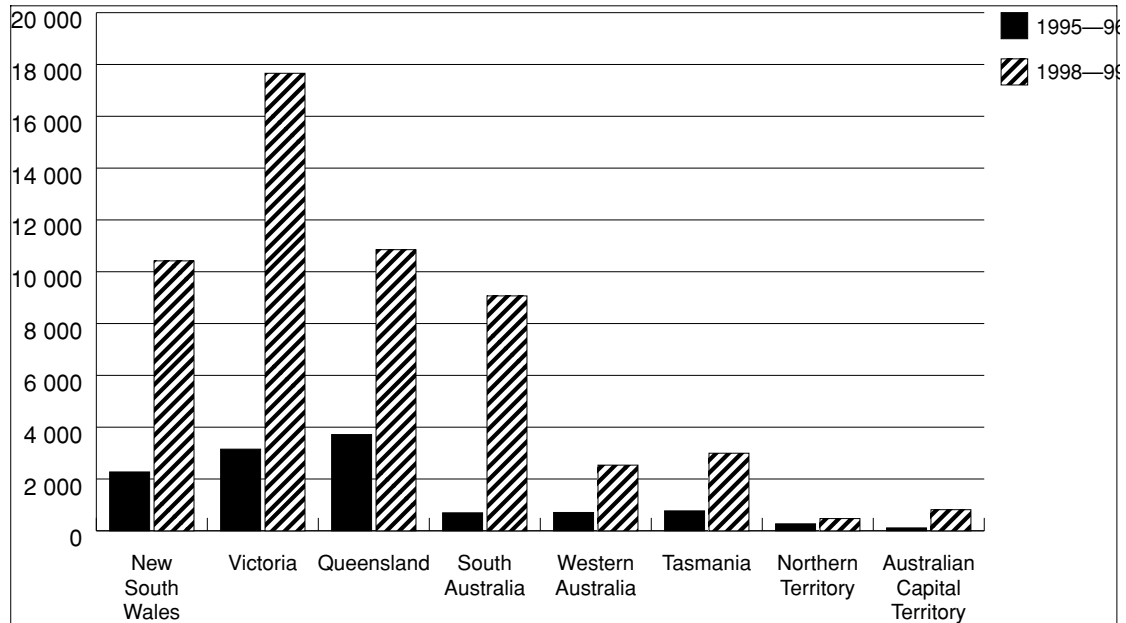
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**Apprenticeship commencements by expected duration, Australian Capital Territory**

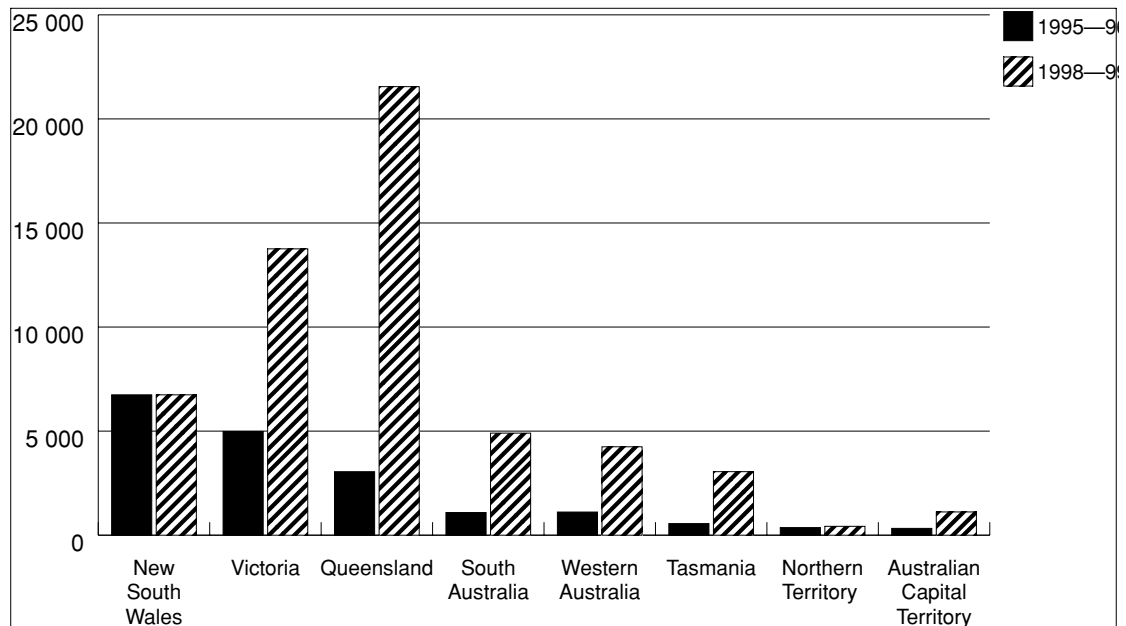
	< 1 yr	1–2 yrs	2–3 yrs	3–4 yrs	> 4 yrs	unknown	Total
1996	979	18	31	628	12		1 668
1997	1 190	165	35	528	5		1 923
1998	1 360	92	48	617	6		2 123
1999	2 784	518	154	737	8	1	4 202
%change	184.4	2 777.8	396.8	17.3	-33.3		151.9

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**Figure A3-1: Trends in apprenticeship commencements by jurisdiction, by skill group, Basic skilled occupations**



**Figure A3-2: Trends in apprenticeship commencements by jurisdiction, by skill group, Intermediate white collar**



**Figure A3-3: Trends in apprenticeship commencements by jurisdiction, by skill group, Traditional trades**

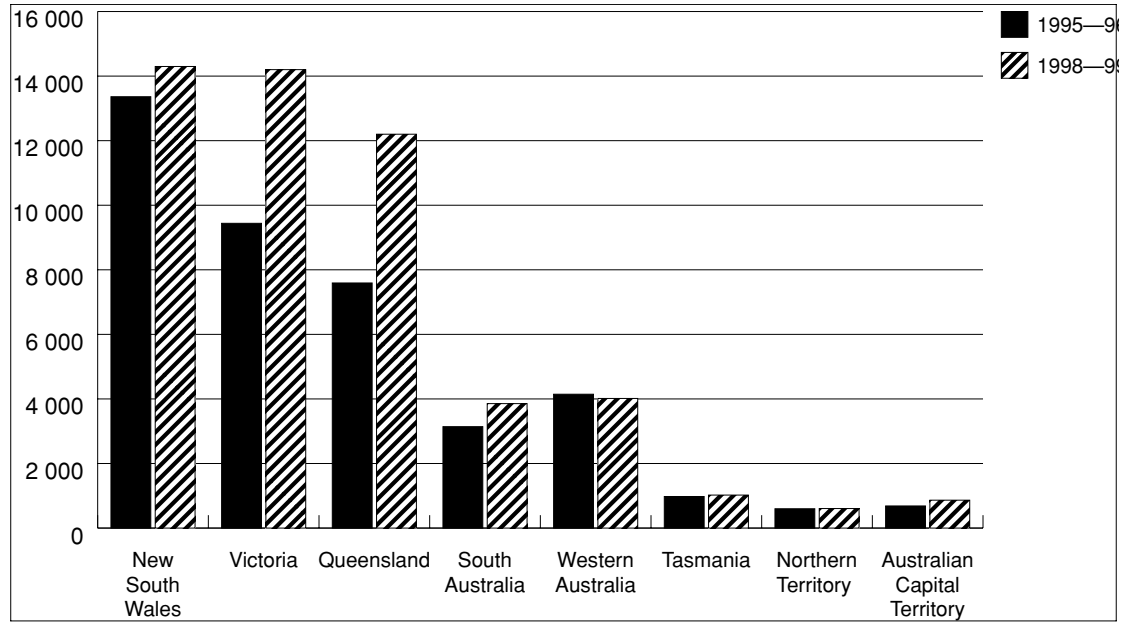


Table A3-2: Expected duration of apprenticeship by ASCO, Australia, 1998-99

Expected duration of apprenticeship by ASCO minor group							
ASCO	<1 year	1-2 years	2-3 years	3-4 years	>4 years	unknown	Total
5	54	1	2				57
6	693	127	1	16		7	844
11	78	1	1				80
12	4 229	239	98	29	1	3	4 599
13	561	1 463	379	467	11	3	2 884
21	1 239	115	25	4		5	1 388
22	206	9	8	1			224
23	341	1 000	247	2		11	1 601
24	288	17	96			25	426
25	134	58	90	10			292
31	5 392	944	405	537	43	86	7 407
32	9 397	1 039	262	69	1	158	10 926
33	40		3				43
34	111	36	7	161	2		317
39	963	1 100	255	68	2	9	2 397
41	2 272	1 173	1 663	19 450	518	31	25 107
42	2 229	1 225	1 060	24 618	317	19	29 468
43	1 837	970	1 148	17 314	367	12	21 648
44	3 050	1 402	3 382	26 441	378	32	34 685
45	6 605	3 468	2 181	17 511	285	32	30 082
46	1 111	218	862	2 842	36	11	5 080
49	5 216	1 631	1 261	18 613	476	23	27 220
59	939	24	1				964
61	51 768	5 232	1 208	406	25	674	59 313
62	34 104	1 567	729	72	8	500	36 980
63	29 183	9 180	4 262	970	186	894	44 675
71	508	195	529	133		13	1 378
72	1 560	283	72	14		1	1 930
73	1 799	553	52	97	1	40	2 542
79	7 312	1 597	701	119	16	28	9 773
81	1 882	325				4	2 211
82	48 503	4 356	4 140	414	21	423	57 857
83	4 085	162	1 618	6		5	5 876
91	3 491	953	2 499	1		36	6 980
92	17 814	6 378	962	179	15	36	25 384
99	17 236	4 215	1 873	207	31	140	23 702
<b>Grand total</b>	<b>266 230</b>	<b>51 256</b>	<b>32 082</b>	<b>130 771</b>	<b>2 740</b>	<b>3 261</b>	<b>486 340</b>

**Table A3-3: Apprenticeship commencements by AQF qualification, 1998–99, by jurisdiction**

<b>Apprenticeship commencements 1998–99</b>							
	AQF1	AQF2	AQF3	AQF4	AQF Dip+	Unknown	Total
New South Wales		15 210	22 080	883	57	6	38 236
Victoria	3	16 694	34 376	1 736	22		52 831
Queensland	74	16 792	30 269	3 249	82		50 466
South Australia	20	10 840	8 153	491		498	20 002
Western Australia	103	4 450	7 155	57		4	11 769
Tasmania	17	2 258	6 434	1 729			10 438
Northern Territory	33	679	929	32			1 673
Australian Capital Territory		1 172	2 907	123			4 202
<b>Grand Total</b>	<b>250</b>	<b>68 095</b>	<b>112 303</b>	<b>8 300</b>	<b>161</b>	<b>508</b>	<b>189 617</b>

**Table A3-4: Employed persons by possession of formal qualifications, by industry by occupation, 1996 census**

<b>Employment by industry and occupation, persons with formal qualifications, 1996 census (per cent)</b>																		
ASCO Code and occupation	Agriculture, Forestry & Fishing	Mining	Manufacturing	Electricity, Gas & Water Supply	Construction	Wholesale Trade	Retail Trade	Accommodation, Cafes & Restaurants	Transport & Storage	Communication Services	Finance & Insurance	Property & Business Services	Government Administration & Defence	Education	Health & Community Services	Cultural & Recreational Services	Personal/ Other Services	Total
1 Managers and Administrators	23.2	66.8	54.5	81.2	63.4	47.1	37.9	45.3	42.6	61.9	58.6	62.7	70.9	87.4	73.5	52.3	55.5	48.5
2 Professionals	61.1	83.5	67.9	82.5	74.1	62.7	63.0	58.5	67.4	68.9	71.2	79.5	76.4	91.1	85.8	56.3	66.9	80.3
3 Associate Professionals	41.4	51.9	52.4	71.8	59.0	41.1	27.8	41.1	36.4	57.2	42.3	52.0	55.6	55.6	64.3	37.1	37.7	45.1
4 Tradespersons and Related Workers	32.0	72.4	58.9	72.2	63.9	62.1	60.8	29.5	71.9	45.7	62.4	61.7	49.1	39.9	43.4	42.6	63.7	58.7
5 Advanced Clerical and Service Workers	24.4	28.6	24.1	32.3	21.0	24.3	20.7	26.7	28.7	30.1	32.2	29.3	32.8	29.0	32.8	30.2	28.4	27.5
6 Intermediate Clerical, Sales and Service Workers	26.2	26.6	26.8	29.5	25.1	26.3	21.8	21.5	31.3	27.5	20.5	28.2	31.7	29.3	27.5	29.6	31.1	26.3
7 Intermediate Production and Transport Workers	20.1	24.5	19.5	31.0	24.7	18.5	13.2	22.1	22.4	24.2	22.8	25.1	17.6	30.4	20.2	25.0	21.2	20.3
8 Elementary Clerical, Sales and Service Workers	19.6	27.7	19.0	28.5	28.0	23.7	11.6	18.6	26.2	20.0	23.3	24.6	32.2	26.5	17.1	18.4	15.3	16.0
9 Labourers and Related Workers	16.2	24.2	14.7	20.7	21.1	15.0	9.1	13.9	15.6	13.5	15.8	16.2	14.6	14.4	9.7	18.3	23.3	14.8
0 Inadequately described	26.2	42.5	35.0	51.9	45.2	34.5	27.0	28.5	30.4	28.8	37.7	46.4	39.7	45.4	30.5	33.0	29.4	35.4
Not stated	9.7	24.6	18.4	30.6	28.7	19.7	13.6	14.2	14.9	23.0	23.4	26.8	27.1	39.0	26.1	18.6	24.2	15.9
Not applicable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>23.1</b>	<b>49.0</b>	<b>39.0</b>	<b>58.3</b>	<b>51.1</b>	<b>35.2</b>	<b>24.8</b>	<b>27.0</b>	<b>32.4</b>	<b>38.3</b>	<b>35.9</b>	<b>50.5</b>	<b>47.8</b>	<b>73.3</b>	<b>56.0</b>	<b>38.4</b>	<b>42.7</b>	<b>41.5</b>

**Table A3-5: Employment by industry by occupation, 1996 ABS census**

	Agriculture	Mining	Manufacturing	Electricity/ Gas/Water	Construction	Wholesale	Retail	Accommodation/ Cafés/Restaurants	Transport/ Storage
1 Managers and Administrators	191 684	6 413	98 856	3 744	51 129	60 909	36 786	8 497	20 716
2 Professionals	6 242	11 400	79 995	8 950	12 232	39 478	29 772	7 982	22 214
3 Associate Professionals	5 201	7 758	51 280	8 264	30 070	39 319	161 871	87 276	24 133
4 Tradespersons and Related Workers	17 323	19 102	242 226	15 709	237 448	45 290	149 045	30 798	19 492
5 Advanced Clerical and Service Workers	5 120	2 396	29 786	1 351	25 427	23 379	23 862	4 725	17 933
6 Intermediate Clerical, Sales and Service Workers	6 479	4 376	85 001	7 867	20 474	107 161	95 503	122 476	56 008
7 Intermediate Production and Transport Workers	22 569	28 408	179 574	5 819	45 433	64 044	76 969	5 474	132 984
8 Elementary Clerical, Sales and Service Workers	1 785	549	25 444	1 883	4 951	34 095	383 946	24 424	18 870
9 Labourers and Related Workers	63 444	4 446	153 899	3 735	50 494	27 413	69 155	59 952	15 050
0 Inadequately described	1 726	1 099	14 157	1 164	4 322	3 640	3 877	1 939	3 103
Not stated	2 757	313	4 818	209	2 105	1 817	5 862	1 744	1 574
Not applicable	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>324 330</b>	<b>86 260</b>	<b>965 036</b>	<b>58 695</b>	<b>484 085</b>	<b>446 545</b>	<b>1036 648</b>	<b>355 287</b>	<b>332 077</b>

Note: Excludes 'not stated' and 'non-classifiable units'.

**Table A3-5: Employment by industry by occupation, 1996 ABS census (cont.)**

	Communication	Finance/Insurance	Property/ Business Services	Government Administration	Education	Health/ Community Services	Cultural/ Recreation	Personal/ Other Services
1 Managers and Administrators	8 517	26 102	61 906	36 296	31 029	24 381	15 007	11 648
2 Professionals	14 935	32 328	231 953	75 593	345 812	299 751	41 068	35 502
3 Associate Professionals	23 535	57 805	110 436	49 959	27 630	75 996	30 073	59 259
4 Tradespersons and Related Workers	21 249	2 148	30 049	31 962	12 868	18 522	17 465	60 763
5 Advanced Clerical and Service Workers	2 483	44 115	80 800	11 147	14 701	16 379	4 992	9 480
6 Intermediate Clerical, Sales and Service Workers	19 298	121 869	89 489	96 622	74 188	213 468	37 622	41 288
7 Intermediate Production and Transport Workers	17 304	1 366	18 511	20 855	3 093	6 712	3 493	12 333
8 Elementary Clerical, Sales and Service Workers	38 526	5 116	42 852	21 029	8 867	13 660	17 756	23 686
9 Labourers and Related Workers	2 272	1 590	75 286	20 134	19 046	50 802	9 444	21 054
0 Inadequately described	1 425	3 148	6 609	8 636	1 883	3 568	1 529	1 900
Not stated	644	866	2 304	1 194	946	1 939	606	995
Not applicable	0	0	0	0	0	0	0	0
<b>Total</b>	<b>150 188</b>	<b>296 453</b>	<b>750 195</b>	<b>373 427</b>	<b>540 063</b>	<b>725 178</b>	<b>179 055</b>	<b>277 908</b>

# Appendix 4: Questions used in interviews with group training companies

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- ❖ How long has your company been in operation and in what regions does your company operate?
- ❖ What industry /ies do you mainly service?
- ❖ How many apprentices do you employ currently? What have been recent trends in this level?
- ❖ What is the current split among your apprentices between those who are 1–2 year apprentices and those over 2 years?
- ❖ Are there categories of apprentice vacancy that you have difficulty in filling?
- ❖ What steps have you taken to overcome any recruitment difficulties?
- ❖ Are these difficulties because:
  - There are too few potential applicants for positions?
  - The available applicants are not suitable?
  - Potential applicants do not find the available positions attractive?
  - The jobs have some inherent difficulty for the applicants such as travelling distance, starting times etc?
- ❖ Do employers have unrealistic expectations about recruits?
- ❖ What policies do you think governments could implement to improve the match between apprenticeship vacancies and potential applicants?

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