Getting It Right:

what employers and apprentices have to say about apprenticeships

October 2005

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Australian Expert Group in Industry Studies
UWS

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ISBN: 0 9750250 3 1

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Acknowledgments

This report would not have been possible without the skilled research support and expertise on the training system of Chris Morgan (Workforce Research). Kell Tremayne, Research Fellow at AEGIS, provided invaluable statistical analysis. The author thanks the Australian Industry Group, Dusseldorp Skills Forum and Group Training Australia for supporting the project. The assistance of officers from the NSW Department of Education and Training, especially David Collins and Ian Kingsley in providing access to extracts from the (confidentialised) database of employers of apprentices was critical to the project. Daniel Toman from NSW DET provided the data and assisted with mailing the survey. Finally, the efforts of the several hundred NSW employers who responded to the survey in such a wholehearted way must be recognised. This strong response is evidence of a deep commitment by some large and small employers to the apprenticeship institution.

Glossary of Terms

‘Traditional apprenticeships’ are defined as persons in a contract of training employed in a Trade and Related occupation (ASCO Major Group 4) with an expected duration of training of more than 2 years full-time and 8 years part-time undertaking a qualification at the Australian Qualification Framework III level or above. ‘Trainees’ are all New Apprentices who are not traditional apprentices.

'New Apprentices’ are apprentices and trainees. ‘New Apprenticeships’ are covered by formal agreements known as either ‘Training Agreements’ or ‘Contracts of Training’. Under these agreements, the employer is obligated to provide training, help and supervision; and the trainee or apprentice is obligated to work as well as undertake the training.

The training program itself can be on-the-job, off-the-job, or a combination of both. Off-the-job training is done at TAFE colleges, business colleges and other approved training providers. Traditionally, apprenticeships take three to four years to complete and traineeships last for one to two years. New Apprenticeships are ‘competency based’. This means it may be possible to complete training sooner if the apprentice or trainee can demonstrate they have reached the skill level required.

‘Apprenticeship/Traineeship Training Contract’ is a legal contract between an employer and an employee (apprentice or trainee) specifying the competencies to be developed over the period of the contract and the rights and obligations of each party. Also known as a training agreement. (NCVER 2004)

Key Messages

- The apprentice training rate in 2004 was at its highest level since 1992. If current rates of economic growth are maintained this high training rate will be sustained into 2006. Current high rates of training will have to be maintained for another decade to compensate for the reduced training effort in the previous decade.

- Earlier research had shown a close relationship between changes in economic activity and apprentice levels. But over the last decade there has been a structural break in that strong economic growth has not translated until very recently into a strong recovery in the training rate. The recent surge in apprentice intake is a response to employers 'hitting the wall' in terms of severe capacity constraints resulting from a reduced supply of tradespersons due to a low apprentice training rate over the previous decade and sustained high levels of economic growth which significantly increased the demand for tradespersons.

- The single most important reasons given by employers for taking on apprentices in 2004 relate to rising workloads, difficulty recruiting tradespersons in the external labour market and difficulties retaining existing skilled trades persons. 1 in every 20 firms stated that publicity about skill shortages was the single most important reason for taking on an apprentice in 2004. Less than 1 in 20 firms suggested government incentives was the single most important reason for taking on an apprentice in 2004. Only 1 in every 100 firms stated that an improvement in flexibility of the apprenticeship system was the single most important reason for taking on an apprentice in 2004.

- Nevertheless, government incentives are important for employers, as they partially defray the costs of apprentice employment and training and are recognition of community support for the firms' key role in this important economic and social institution.

- Aggregate data indicates that growth in the level of apprentice intake is almost entirely the result of growth in the number of firms taking on apprentices rather than an increase in the number of apprentices taken on per firm.

- High rates of economic growth have stimulated both higher apprentice intake and the countervailing effect of increased apprentice non-completion rates. Non-completion rates increased from 30% in the late 1990s to 40% in the last few years.

- The current level of apprentice wages is not a disincentive to employ an apprentice. There was no support from employers for a reduction in apprentice wages. In fact a significant minority wanted higher apprentice wages on the basis that lower wages would deter more able applicants and lower wages were seen as inequitable.

- The key factors that would encourage employers to take on more apprentices are higher government incentives, a higher level of output (these were of equal importance) and a lift in the quality of applicants.

- When asked what changes employers would like to see to the apprenticeship system 32% of firms in the survey did not answer this question and 11% of all firms suggested no change to the current system.

- Employers identified a very broad range of changes they would like to see to the apprenticeship system, though no single change attracted a high proportion of firms.

Employers are seeking refinements to the apprenticeship and training system not large-scale restructuring.

- The most commonly requested change was higher government subsidies nominated by 18% of firms who answered the question. The second most cited change was higher income for apprentices (either via higher wages or higher subsidies directly for apprentices) nominated by 13% of firms.

- Only 6% of firms who answered the question recommended a reduced term of training and just 3% to replace wholly or partially off the job training for on the job training. Just over 10% wanted greater flexibility from TAFE in terms of delivery and scheduling classes and an improvement in the relevance of TAFE training.

- There is some evidence that there has been a modest increase in the quality of applicants for apprenticeships. This improvement is a response mainly to publicity about skill shortages, a large rise in apprentice vacancies, rising incomes for tradespersons and enhanced marketing and selection procedures by Group Training Organisations (GTO). This would have been important at the margin in increasing intake as employers identify a lift in the quality of applicants as a factor that would encourage them to take on more apprentices.

- Group Training Organisations account for around 1 in every 5 apprentices employed and have experienced significant growth. This growth is partially the result of active marketing directed at expanding the number of suitable applicants for apprentice vacancies and the number of host employers. Group Training Organisations also address many of the barriers that inhibit firms from directly employing apprentices. This continued growth of Group Training suggests that the barriers to direct employment will continue.

- A diverse range of factors contribute to young people considering undertaking an apprenticeship. Publicity about skill shortages, rising tradesperson wages, rising apprentice vacancies and even an awareness of rising labour demand resulting from demographic change were factors that stimulated young people to become apprentices. In addition, the traditional reasons associated with wanting an apprenticeship are also important to apprentices who commenced in 2004. These reasons include gaining a recognised and transferable qualification that provides some insulation from the vagaries of the labour market; a reluctance to undergo further full-time study; seeking a reasonable income and the prospect of autonomy and self-employment.

- The key policy issues that need to be addressed by government include maintaining the increased role of the public sector as a direct employer of apprentices; improving apprentice completion rates; improving forecasting of skill shortages; reforming financial incentives for employers and apprentices and ensuring adequate resourcing of Group Training.

Executive Summary

Context for the Study

This study was developed in the context of considerable public debate on the causes, consequences and solutions to skills shortages across a broad range of occupations, most notably in the trades. These shortages have sparked a series of initiatives at the Commonwealth level such as the introduction of Australian Technical Colleges; extension of Austudy to apprentices; other financial incentives such as subsidies for tool kits; moves towards reducing the term of training; developing a new system for the determination of apprentice wages and linking Commonwealth funds for vocational education to the expansion of Australian Workplace Agreements in TAFE colleges. At a state level many governments have reversed long standing policy by significantly increasing their own apprentice intake. They have also investigated the causes of skills shortages in their jurisdictions (Department of Employment and Training 2005). This study is intended to make an informed and empirically based contribution to these debates.

Purpose of the Study

This study was developed in response to the recent strong surge in apprentice intake that occurred in the context of persistent trade skills shortages in many traditional trade occupations. The annual level of commencements between 1996 and 2004 increased by 95%, of which well over one third occurred in 2004 and three quarters between 2002-2004. The apprentice training rate in 2004 is the highest achieved since 1992.

The purpose of this study was to address four research questions:

- firstly, to identify the causes of the large increase in apprenticeship intake in 2004
- secondly, to determine if the rate of increase in apprentice commencements is likely to be sustained over the next twelve months
- thirdly, to identify the factors that would encourage employers to take on more apprentices
- finally, to assess the implications of the findings for public policy directed at increasing apprentice intake and redressing future trade skills shortages.

Primary data was collected though a mail survey of 1500 NSW firms that had taken on an apprentice in 2004; an email survey of managers of Group Training Organisations that had experienced a significant rise in apprentice intake in 2004 and focus groups with apprentices that had commenced training in 2004. Secondary data for the study on long-run trends in apprenticeships was derived from the National Centre for Vocational Education Research.

Trends in Apprentice Intake

Over the nine years between 1996 and 2004 there was a substantial increase in the age of traditional apprentices upon commencement. In 1996 persons aged 19 or under comprised 81% of total commencements; by 2004 this had declined to 72%. The share of persons aged 25 or older increased from 5% in 1996 to 12% in 2004. This demographic shift is partly the result of

the difficulty employers have in attracting suitable quality school leavers for apprenticeships as well older workers having significantly higher completion rates than younger persons.

Whilst all major traditional trade occupations experienced an increase in commencements other data based on the stock of apprentices in-training indicates that this growth has been narrowly based. Construction and electrical trades account for 73% of the increase in the numbers in-training between 1996 and 2004 even though they account for just 42% of all apprentices in-training in 2004. However, if the level of commencements achieved across all trades in 2004 are maintained over the next two years the pattern of growth will be less concentrated.

Group Training continues to be an increasingly important institution in the maintenance of the apprenticeship system. Its share of total apprenticeship commencements increased from 15% in 1996 to 18 % in 2004.

Background to Trade Skill Shortages

Trade skill shortages are a consequence of an inadequate supply of tradespersons due to a long period of under-investment in apprentice training. This inadequate supply has been exacerbated by strong demand for trade skills due to sustained high levels of economic growth in Australia. A major cause of the inadequate supply of tradespersons is under-investment in apprenticeships. The annual average apprentice training rate over the eleven years between 1982 and 1992 was 13%; between 1993 and 2003 it declined to 11%. This is a reduction of 16%. This implies that the current lift in the apprenticeship training rate will have to be maintained for around 10 years to compensate for the under-investment in training that occurred in the previous decade.

This reduced training rate is a consequence of structural changes in the economy which have increased the barriers to employer investment in training. These structural changes include for example, reduction in training effort by the public sector; focus on short-term financial performance which depresses longer term investment in training; reduction in average firm size; reduced innovation intensity in the economy; intensification of competition and difficulty in attracting suitable quality applicants due to the rise of alternative employment in service industries and rapid expansion in university enrolments.

The combination of sustained low rates of trade training and high rates of economic growth resulted in rising skilled labour capacity constraints after 2001. Between the end of the recession in 1993 and 2004 annual average GDP was 3.9%; one of the highest continued periods of growth in Australia's economic history. By 2004 the official unemployment rate had fallen to around 5%, the lowest level in twenty years. Capacity constraints also apply to firms' plant and equipment and to general physical infrastructure. Rising labour and physical capacity constraints in 2004 prompted a surge in investment infrastructure, buildings and equipment, with the ratio of investment to GDP reaching 25%, the highest level in thirty years. However, this marked increase in investment spending further exacerbated short-term labour constraints as new investment lifts the demand for skilled tradespersons to install, adapt, operate and maintain this equipment.

Addressing the Research Questions

- Identify the causes of the large increase in apprenticeship intake in 2004.

The single most important reasons given by employers for taking on apprentices in 2004 relate to rising workloads, difficulty recruiting tradespersons in the external labour market and difficulties retaining existing skilled trades. (The latter was due to poaching of skilled trades by other firms or workers seeking better prospects elsewhere.) These three factors were nominated

by 75% of firms as the single most important reasons for taking on an apprentice in 2004. A rise in the firms' workload was also identified as a principal factor that would lead firms to take on more apprentices. These findings are consistent with other evidence that employers experienced rising capacity constraints around 2003-04 with respect to labour supply and capital equipment.

Factors relating to government subsidies and improvements in the 'flexibility' of the apprenticeship system were identified by only 1 in every 20 firms as the single most important reason respectively for taking on an apprentice in 2004. This is not to say these factors are unimportant or that improvements should not be pursued, but they are clearly not decisive factors for the great majority of firms. Government subsidies, whilst undoubtedly welcome by employers for pecuniary and non pecuniary reasons, comprise only a small fraction of the total costs of employment and training. Subsidies are important at the margin and it is important they be maintained and their effectiveness and efficiency be improved. There is some support for the contention that subsidies permit employers to increase wages and improve conditions to attract higher quality applicants and/or required apprentice effort. Issues to do with the design of the apprenticeship system and 'flexibility' that exercise many policy makers are unlikely to be uppermost in the minds of employers, especially as the great majority of firms who employ apprentices do so very infrequently and only take on 1 or 2 at a time. For example, of the 45,436 NSW firms that employed an apprentice between 1997 and 2004 63% employed just one apprentice over the eight year period. 81% of firms employed 2 or less apprentices. (These firms accounted for 39% of all apprentices taken on over the period.)

- Determine if the rate of increas increase in apprentice commencements is likely to be sustained over the next twelve months

The survey data indicates that the training rate will be maintained in the next twelve months. The most recent data for NSW indicate that in the first 8 months of 2005 compared to the same period in 2004 the high level of intake in 2004 has been maintained, with a decline of only 1.2% recorded for 2005. Larger firms are much more likely to report that they will take on apprentices over the next year. This follows from the fact that larger firms have a more regular intake of apprentices than smaller firms. Close to two-thirds of firms with more than 20 employees plan to take on more apprentices in the next year, compared to just one quarter of firms with 20 or less employees.

- Identify the factors that would encourage employers to increase their rate of apprentice training

Employers identified a broad range of factors that would encourage them to take on more apprentices. Of the firms who answered this question the most frequently cited factor was 'higher government incentives' identified by 38% of firms. Typical responses were 'Further rebates. Apprentices take time to train and are non-productive for the first 2 years. Tradespeople lost time whilst training them'; and 'More government help. The subsidies are pitiful to say the least. The subsidies don't even cover workers compensation let alone the TAFE fees or compensate for time left/lost while at TAFE training.' Secondly, 'Higher workload/if the business was bigger' was identified by 37% of firms who responded to the question.

The third most important factor was 'higher quality/reliability of applicants' identified by 17% of firms. Typical responses were: 'Our business would take on more apprentices if the calibre of applicants were of a higher standard and if the "apprentice" valued the training and opportunity presented to them. This comes down to career advice at school.' 'The most critical aspect of recruitment with apprentices is the lack of quality in applicants. My business would take on up to 50 apprentices if the right applicants were available.' It seems there is no obligation to the employer by the apprentice, who can just up and leave for more money by someone else, once

you have trained them up to a time when they have learned skills for their employer to be able to use'.

The large proportion who stated 'higher government incentives' would encourage them to take on more apprentices stands in marked contrast to the small proportion of firms who identified 'government subsidies' as 'the single most important reason for taking on an apprentice in 2004'. When asked to consider what would lead them to employ 'more' or additional workers it would seem many employers interpreted the question as implying 'what would encourage you to take on more or additional apprentices at or near your current level of output?' In considering what would lead them to employ an additional worker for whom there is not quite enough work, higher government subsidies could make it economic to employ a marginal worker.

Other factors that would encourage employers to engage more apprentices include, 'lower costs (workers' comp/statutory charges)' (7%); 'improve TAFE' (6%) and 'reduce paperwork associated with apprenticeships' (4%). Only 2 firms (0.4%) suggested reducing wages, whilst 3% of firms recommended 'higher government incentives to enable an increase in apprentice wages'.

- Assess the implications of the findings for public policy directed at increasing apprentice intake and redressing future trade skills shortages.

One of the principal drivers of the decline in apprentice training over the last decade was the withdrawal of the public sector as a direct employer of apprentices. In response to skill shortages government departments and instrumentalities have significantly lifted their apprentice intake over the last few years. Governments are in a unique position to maintain a high level of apprentice intake to stabilise the supply of tradespersons. It is important that this role is maintained and expanded.

Greater efforts are required to improve completion rates. A variety of measures are recommended such as suggestions from employers and Group Training Managers for government to provide a payment to apprentices for completing their training, increased pre-apprenticeship places and improved school careers guidance.

Refinements to the level and structure of employer incentives could be influential at the margin in lifting employer training investment. One measure would be to re-direct scarce public funds from support of traineeships to apprenticeships.

Lifting the quality of applicants for vacancies is an important measure that was demanded by employers. One suggestion was to highlight trade training as an alternative pathway to future tertiary studies. This could be influential at the margin in attracting more academically able students who may mistakenly regard the choice between trade training and tertiary study as conflicting alternatives.

The finding that nearly one in seven firms identified publicity about skill shortages as the single most important factor in their decision to employ an apprentice was surprising, but also valuable. Promotional campaigns directed at firms could emphasise the benefits of training as a strategy to redress skill shortages as an alternative to other approaches such as poaching or increasing wages to attract skilled labour. Improved forecasting of trade skill shortages could also lead employers to take action to forestall such shortages.

Group Training is increasingly important in maintaining the apprenticeship system. If there were to be a significant reduction in economic growth over the next 3-4 years it does raise the prospect that large numbers of apprentices may be unemployed. Will Group Training have the resources to act as a traditional 'employer of last resort' for these apprentices?

Views of Apprentices

The main reasons for undertaking an apprenticeship are clustered around issues to do with wanting a job with skills recognised through a qualification - this was seen as providing some insulation from the uncertainties of the labour market. One apprentice commented that 'it's more worthwhile'. Important too are the prospects of a reasonable income over the long term; preference for physical or outdoors work; prospect of running their own business and prospect of independence attached to such a business and reluctance to undertake further full-time study. For others the choice reflected a sense of vocation, it was more than a job, and part of a family expectation or tradition.

Relatively few were aware of publicity for apprenticeships prior to 2004, though interestingly, more noticed these advertisements after they had commenced their training as the advertisements seemed more relevant to them. The apprentices in the study were influenced in their career decision-making by the potential long-term rewards of their training compared to other learning pathways, such as university entrance. Apprenticeship marketing strategies could be better pitched to a wider range of potential apprentices, especially by comparing the returns from an apprenticeship to future tertiary study.

1. Introduction

1.1 Background to the Study

This study was developed in response to the recent strong surge in apprentice intake against a background of persistent trade skills shortages in many traditional trade occupations. These shortages are the result of strong demand for trade skills due to high rates of sustained economic growth and a comparatively low rate of apprenticeship training for more than a decade after the deep recession in the early 1990s. Over the last few years, however, and especially over the course of 2004, there was a large increase in employer investment in apprentice training. The annual level of intake between 1996 and 2004 increased by 95%, of which well over one third occurred in 2004 and three quarters between 2002-2004.

Given the magnitude of current and prospective trade skill shortages facing many industries in Australia it is important to understand what is behind the recent surge in apprentice intake and to identify possible public policy responses to sustain this higher level of investment. The VET sector in general and the issue of trade skill shortages in particular have been the subject of intense policy activism, by industry associations and Commonwealth and state governments.

The study was commissioned by the Australian Industry Group, Dusseldorp Skills Forum and Group Training Australia.

1.2 Scope of the Study

The purpose of this study is fourfold; firstly, to identify the causes of the large increase in apprenticeship intake in 2004. Secondly, to determine if the rate of increase in apprentice commencements is likely to be sustained over the next twelve months. Thirdly, to identify the factors that would encourage employers to increase their rate of apprentice training. Finally, to assess the implications of the findings for public policy directed at increasing apprentice intake and redressing future trade skills shortages.

The focus of the study was apprenticeship commencements in 2004. This period was selected as the largest proportional increase in apprentice intake over the last two decades occurred in that year. Further, it was judged that employers would have less difficulty recalling their reasons for employing apprentices if asked to reflect on the relatively recent past compared to a more distant period.

Data for the study was derived from four sources. Descriptive data on long-run trends in apprenticeship intake was derived from the National Centre for Vocational Education Research (NCVER). A mail survey of 1500 NSW firms who had taken on an apprentice in 2004 was undertaken to identify the motivation for firms engaging apprentices; determine the hiring intentions of the employers with respect to additional apprentices in the next 12 months; identify what factors would encourage employers to engage additional apprentices and determine what changes they would like to see to the apprenticeship system. Given the central and growing role of Group Training Organisations in the employment of apprentices an email survey of Group Training Managers was carried out to identify the causes of the growth of apprentice intake amongst their host employers in 2004. Finally, to gain an apprentice perspective on these issues a series of focus groups were conducted with thirty six apprentices in NSW. (A detailed account of the project methodology is provided in Appendix 1.)

1.3 Structure of the Report

An analysis of long-run trends in apprenticeship intake is provided in chapter 2. The subsequent three chapters detail the results of the mail survey of employers, email survey of Group Training managers and the focus groups respectively. The conclusion draws out the key public policy implications of the study.

2. Longer Run Trends in Traditional Apprenticeships

2.1 Trends in Commencements

Over the nine years between 1996 and 2004 there was a 95% increase in commencements of 'traditional apprentices' in Australia (Figure 1). Annual commencements increased from 29,400 in 1996 to 57,500 in 2004. (Traditional apprenticeships are defined as persons employed in a Trade and Related occupation ASCO Major Group 4) with an expected duration of training of more than 2 years and undertaking a qualification at the Australian Qualification Framework III level or above. All NCVER data reported in this report is for the December quarter of each year based on March 2005 estimates. Most of the growth in commencements occurred in recent years with 39% of the increase occurring in 2004.

The number of annual completions varies from year to year, depending on the level of intake over the previous four years and movements in completion rates. During 2002-04 there were on average 21,000 completions per year (NCVER 2005: Table 10).

Using a wider definition of apprentices to encompass all Trades and Related New Apprentices (ASCO 4 Major Group), commencements increased by 69% over the same over period.

All traditional trade groups increased their intake over the 9 year period, with the largest increase occurring in Construction (202%) and Mechanical and Fabrication trades increasing the least (32%) (Tables 2.2-2.3). Due to these differential rates of growth there was a large shift in the share of individual trade occupations in total commencements over the period (Table 2.4). Construction increased its share of total annual intake from 18% in 1996 to 28% in 2004. Mechanical and Fabrication intake fell from 19% in 1996 to 13% in 2004. Construction made a disproportionate contribution to the increase accounting for 38% of the total increase in traditional apprentice intake over the 9 year period, substantially greater than its share of total trades employment. Mechanical and Fabrication accounted for just 6% of the increase. (The disproportionate rate of growth of construction related apprenticeships is due to the above average rate of growth of output in this industry, which greatly exceeded GDP growth over the period 1996 to 2004. This is examined in the next section).

Group Training increased its share of total traditional apprenticeship commencements from 15% in 1996 to 18% in 2004 (Table 2.6). Almost all of the change was accounted for by the private sector whose share of total commencements declined from 82% to 78%. Increased reliance by firms on Group Training is consistent with firms experiencing rising barriers to the direct employment of apprentices (Toner, McDonald and Croce 2004).

There was a substantial increase in the age of traditional apprentices upon commencement (Tables 2.5). In 1996 persons aged 19 or under comprised 81% of total commencements; by 2004 this had declined to 72%. The share of persons aged 25 or older increased from 5% in 1996 to 12% in 2004. This demographic shift is partly the result of the difficulty employers have in attracting suitable quality school leavers for apprenticeships as the result of the rapid growth of tertiary education and employment in service industries. Older workers are also attractive to employers since they are more committed to completing an apprenticeship as they are more likely than a younger person, such as a school leaver, to have made an informed judgement about their career choice.

A recent NCVER report on factors influencing the completion of new apprenticeships found that persons aged 25 and over (and especially those aged 45 and over) have a much higher completion rate than persons aged 20-24 (Ball 2005: Table 3). The Mail Survey of Employers

also provides some support for this. In response to the question 'what would encourage your business to take on more apprentices' 17% of the 509 employers who responded to the question identified a lift in quality and/or loyalty of applicants. By loyalty they meant being prepared to complete their apprenticeship. Some of the employers are clearly bitter about investing their time and effort into an apprentice who then either does not complete; completes the apprenticeship with another employer or seeks employment with a different employer soon after finishing their training. Typical of such responses is the following:

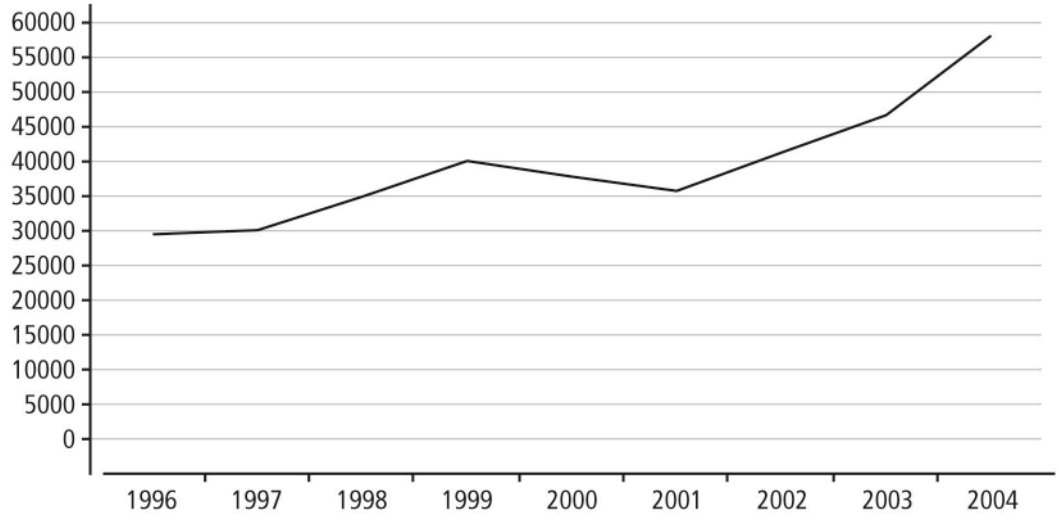
It seems there is no obligation to the employer by the apprentice, who can just up and leave for more money by someone else, once you have trained them up to a time when They have learned skills for their employer to be able to use.

In our field they all go chasing the money once they are fully qualified, finding tradesmen is really hard so we train our own for four years then some other company offers more money and they leave the employer. They should be made to show loyalty to the company that trained them (we don't expect to pay min wages). Larger companies don't train so they offer more per hour than a company like mine which uses up money to train then can't afford the high wages.

Payment incentives for employers who put the apprentices through the training program but the employee decided to leave prior to 4 years completion. As in our case 2 apprentices left before their time was complete and the other employer received the government grant even though the apprentice only had 10 more months in completing his term… the new employer, who did not have to send him to TAFE, did not have to pay for tools and TAFE courses and he had been shown and taught the job by … our company for just over 3 years. This is not justice. This was unjust, unfair and we did not receive any government benefits even though we outlayed all the money and sending the employee to tech. System needs changing and due to this we will never put a person through an apprenticeship program again.

Figure 1

Annual Traditional Apprenticeship Commencements Australia



Source: NCVER (2005) unpublished data

2.2 Trends In-Training

More important than commencements however is the trend over time in the level of apprentices in-training. The number of traditional apprentices in-training (the stock of traditional apprentices in a given year) between 1996 and 2004 increased by 28% (Table 2.7). The number of traditional apprentices in-training increased by 29,200 from 102,460 in 1996 to 131,660 in 2004. 39% of the increase occurred in 2004. The number of Trades and Related New Apprentices in-training (ASCO 4 Major Group) increased by 20%.

The reason for the much smaller rate of increase of traditional apprentices in-training compared to commencements is that the former is, in effect, a four year moving total of apprenticeship commencements minus completions and non-completions. However, the rate of apprentice completions has declined markedly over recent years. The cohort of traditional apprentices who commenced a contract of training in 1995 had a completion rate of 71% compared to a completion rate of 60% for the cohort commencing in 1999 (Ball and John 2005). The level of apprentices in-training should increase markedly over the next two years if the level of apprentice intake achieved in 2003-04 is maintained.

Construction accounted for 52% of the increase in the total number of traditional apprentices in-training over the 9 year period. However, construction accounted for only 27% of total traditional apprentices in training in 2004. Similarly, electrical trades accounted for 21% of the increase even though they represent 15% of all apprentices in 2004. These two trades account for 73% of the total increase over the period in the number of traditional apprentices in-training.

In-training data suggests the increase over the period was much more concentrated in a limited number of industries. Mechanical and Fabrication contributed -5% due to a decline in the absolute number of traditional apprentices in training over the period (18,560 in-training in 1996 and 17,230 in 2004). (Similar results apply with respect to in-training of Trades and Related New Apprentices ASCO 4 Major Group.) The pattern of in-training will become less concentrated if the level of apprentice intake achieved in 2003-04 is maintained. Some trades such as Mechanical and Fabrication experienced a large increase in commencements during 2004 and this will affect in-training data if the higher level of commencements is maintained over the next few years.

The increase in number of Trades and Related New Apprentices (ASCO 4 Major Group) in-training resulted in an increase in the apprentice training rate (Table 2.8). The training rate, or ratio of apprentices to employed tradespersons, for all trades in mid 2004 was 12%. This is the highest rate of training since 1992, when the rate was 13%. However, this high training rate will have to be sustained for around ten years to compensate for the skills deficit resulting from the sustained decline in training rates between 1993 and 2003. In addition, not all trades have participated in this increase, with the training rate for metal and electrical apprentices remaining quite flat from 1993 to the present. (Though electrical did show an increase in 2004).

2.3 Background to Skill Shortages

The study was prompted by the recent strong surge in apprentice intake against a background of persistent trade skill shortages, which are due to a long period of under-investment in apprentice training. The following section argues that an inadequate supply of skilled tradespersons was exacerbated by strong demand in recent years for trade skills as a result of sustained high levels of economic growth in Australia.

Trade skill shortages have affected most industries. In manufacturing industry for example, the Ai Group conducted a survey of 768 firms, representing 25% of total manufacturing output, and found that ‘Australian industry faces a critical shortage of skilled tradespersons in the next five

years, with an expected large shortfall in the number of skilled tradespersons available to replace retiring employees'(Ai Group 2004: 9, 3). In mid-2004 it was 'estimated that between 18,000 and 21,000 positions for skilled tradespeople in manufacturing…currently remain unfilled' (Ai Group 2004: 5). An inadequate level of training in the industry was the predominant reason given by companies surveyed for the difficulties they faced in filling their vacancies (Ai Group 2004: 5). (One third of the firms indicated there were 'no applicants'; another third cited 'applicants lacking qualifications' and another third 'having inappropriate skills and experience'. The first two reasons point unambiguously to a deficiency in the level of training.) A similar situation applies in the construction industry with current shortages to be exacerbated in the future by an aging workforce. One construction industry association suggested there is 'an annual shortfall of between 20,000 and 25,000 apprentices a year' which will be compounded by a 'predicted loss of 44,000 skilled workers from all trades due to retirement in the next five years' (The Master Builders Association of Australia 2005).

Under-investment in apprenticeships is a major cause of the inadequate supply of tradespersons. Following the deep recession in 1992 the apprentice training rate declined markedly and did not recover to historically high levels until 2004. The annual average apprentice training rate over the eleven years between 1982 and 1992 was 13%; between 1993 and 2003 it declined to 11%. This is a reduction of 16%.[1] This implies that the current lift in the apprenticeship training rate (12% in 2004) will have to be maintained for around 10 years to compensate for the under-investment in training that occurred in the previous decade. Another perspective on this issue is that the sustained reduction in the training rate over the previous decade was equivalent to removing one year of annual apprentice completions every six years.[2] That is to say, every six years around 21,000 fewer tradespersons were produced.

This reduced apprenticeship intake, whilst prompted by the severe recession of 1992, was sustained for a much longer period than predicted by previous models that sought to explain the cycles in apprentice intake. Earlier research had identified a close relation between changes in the level of economic output and changes in the level of apprentice intake (Merrilees 1983; Dandie 1996). However, over the last decade it is striking that strong economic growth has not translated, until very recently, into a strong recovery in the training rate (Toner 2003).[3] This reduced training rate is a consequence of structural changes in the economy which have increased the barriers to employer investment in training (Toner 2003). These structural changes include:

- withdrawal of the public sector, due to privatisation and corporatisation, as a large direct employer of tradespersons and apprentices (Toner 1998; Kapuscinski 2000: 25).

- rise of short-termism due to 'an excessive preoccupation with projects, activities and investment designed to deliver improved near-term returns and outcomes at the expense of those that could deliver higher returns and outcomes over the long run' (Business

[1] Difficulties faced by employers with respect to investment in training apprentices are mirrored in general employer training expenditure. Over recent years there has been a decline in training intensity in the economy. Between 1996 and 2001-02 net employer expenditure on structured training as a share of gross wages and salaries amongst all firms that provided such training declined from 1.7 percent to 1.5 percent (ABS 2003: Table 6). This is a decline of 12 percent.

[2] This assumes the completion rate is the same in both periods.

[3] Using data from 1968 to 1999 Kapuscinski (2000:11) found that change in the level of economic activity is the primary determinant of change in the level of apprentice intake, and other forms of entry-level training such as traineeships. '[T]raining of apprentices and trainees exhibits a procyclical character…there is a very clear link between the state of the economy and the strength of the entry level training'. However, despite strong economic growth from the mid-1990s apprenticeships and traineeships 'have displayed trends going in opposite directions' (Kapuscinski 2000:14).

Council of Australia 2004: 37). This focus on the short run performance is due to a number of factors such as the limited tenure of CEOs in Australia and the focus of financial markets on short-run quarterly results. One adverse result of short-termism is a situation where managers favour 'investment in highly observable projects, where progress is easy to demonstrate' and to lower investment in 'less tangible projects, such as in human capital or certain types of research and development (R&D)' (BCA 2004: 41). It is generally accepted that apprenticeship training is not cost-neutral until an apprentice is in their third or fourth year. This is a deterrent to investment in longer-term training under the current system of market incentives.

- intensification of competition, which is the product of the reduction in barriers to international trade and financial flows as well as global over-capacity in key manufacturing industries. Intensified competition not only constrains the financial resources that can be devoted to training but, in reducing staffing to cut costs, it also reduces the scope of experienced tradespersons to be diverted from direct production tasks to the training and mentoring of apprentices (ACIRRT 2002).

- reduced average firm size in industries such as construction and manufacturing that have a disproportionate share of traditional apprentices. Over the last three decades, due to the growth of outsourcing and reduced role of the public sector, there has been a decline in the share of total employment in large firms. This has been especially dramatic in the construction industry. Between 1988-89 and 2002-03 average firm size in the industry declined from 4.1 persons to 2.1 persons. This was the result of a more than 300% rise in the number of firms from 98,000 to 340,000, while over the same period total industry employment increased by 81% (Toner 2005). The increase in the number of new firms was in large part due to the growth of subcontracting as firms seek to cut costs and shift risk onto other parties. Smaller firms are much less likely to train than larger firms (ABS 2003: Table 2; Kapuscinski 2000: 28; Ball and Freeland 2001: 20; Ridoutt, Dutneal, Hummel and Selby-Smith 2002: 17).

- changes in the forms of employment, especially the growth of part-time, casual, contractor and labour hire employment over the last two decades. Persons in non-standard employment are much less likely to receive employer funded training than permanent full-time employees (VandenHeuvel & Wooden 1999: 27; Kapuscinski 2000: 35; CITB and DfES 2003).

- reduced innovation intensity in the economy. Australia's expenditure by business on R&D as a share of GDP declined from the peak achieved in 1995-96 and has not recovered to date (ABS 2004). Firms that are involved in the development of new products and production processes are much more likely to invest in training (Michie and Sheehan 2003; Toner 2004). One study based on an analysis of ABS surveys of employer training expenditure found that the 'development of new products has a significant impact on firm's involvement in entry level training- the proportion of firms engaged in such training is about 50% higher for firms engaged in product innovation than firms that do not introduce new products' (Kapuscinski 2000: 31).

- difficulty in attracting suitable quality applicants due to an image problem of traditional apprenticeships among some social and economic groups; growth of alternative employment in the service sector and increased opportunities for more academically able students due to the expansion of higher education.

Over the last two decades firms adopted a variety of strategies firstly, as an alternative to training, and secondly, to cope with skill shortages and recruitment difficulties. In addition to

the structural changes identified above, these strategies contribute to an explanation of the sustained low training rates between 1993 and 2002. Strategies used to reduce apprentice intake and overcome recruitment difficulties include (Ai Group 2004: 16; Richardson 2005: 22-23):

- increase skill levels of existing staff through training
- recruiting from overseas, interstate or wider geographical region
- outsourcing of work
- increase capital intensity to reduce labour-output ratio
- informal upgrading by using unqualified persons to fill trades positions
- increase wages to attract tradespersons and retain those already employed
- increase overtime
- use labour hire
- improve working conditions.

2.4 Economic Context to the Surge in Apprentice Intake

The combination of sustained low rates of trade training and high rates of economic growth resulted in rising labour capacity constraints after 2001. Between the end of the recession in 1993 and 2004 annual average GDP was 3.9%; one of the highest continued periods of growth in Australia's economic history. By 2004 the official unemployment rate had fallen to around 5%, the lowest level in twenty years.

According to the Reserve Bank:

> the economy is now in its 14th year of expansion, and during that time substantial surplus capacity has been absorbed….It's also clear the economy has been using up surplus labour capacity…The severity of the current skills shortage is captured by some of the business surveys which report the difficulty of finding suitable labour now is as high as it's been in the last two decades…for many businesses, shortages of labour have become a bigger constraint than traditional concerns about demand and sales (RBA 2005: 8-9).

Capacity constraints with respect to labour and the resulting difficulties in recruiting skilled labour are evident in the Department of Employment and Workplace Relations (DEWR) National Skills Shortages List and Index of Trades Vacancies (Appendix 4). The former is prepared by the Labour Economics Offices of DEWR in each state and is a key input into the identification of occupations to be targeted under the Skill Migration component of the annual migration intake. Twenty six separate trades are identified as being in shortage, including most trades in the manufacturing, construction, electrical, automotive, food and personal services industries. The Index of Trades Vacancies is based on a count of vacancies advertised in major metropolitan newspapers. The index for all trades reached a peak of 157.8 in June 2004, the highest level since the index was published in 1990. (The index has a base of 100 as at November 1997.)

Capacity constraints apply not only to many forms of trade and professional labour, but also to firms' plant and equipment and to general physical infrastructure. Rising labour and physical capacity constraints prompted a surge in investment infrastructure, buildings and equipment, with the ratio of investment to GDP reaching 25.1%, the highest level in thirty years (ABS 2005: Tables 9, 63). However, this marked increase in investment spending further exacerbated short-term labour constraints as new investment lifts the demand for skilled tradespersons to install, adapt, operate and maintain this equipment. In this sense increased capital investment and demand for skilled labour are complementary.[4] In turn, this increased physical investment generates increased investment in human capital, and specifically apprenticeships. Firms that invest in new capital investment have a much higher propensity to invest in apprenticeships than firms which do not undertake new capital investment (Kapuscinski 2000: 31).

[4] This complementarity is offset to the extent that new equipment is used to reduce the ratio of skilled labour to capital. Such investment is also linked to product and process innovation as more recent vintages of capital equipment embody newer technologies. In addition capital investment along with R&D is a key element in the official definition of innovation expenditures. This relates to the earlier finding that more innovation intensive firms are also more training intensive.

3. Results of the Mail Survey of NSW Employers

3.1 Introduction

This chapter summarises the results of the employer mail survey. (Tables referred to in this chapter are in Appendix 2). The chapter provides data and analysis based on all employers who responded to the survey (section 3.2) and cross tabulations of respondents by firm size (section 3.3) and by industry (section 3.4).

3.2 All Employers

3.2.1 Reasons for Employing Apprentices in 2004

Businesses were asked to select from a range of factors 'your reasons for taking on an apprentice in 2004' (Table 3A). Of the 703 firms that responded to the survey 638 firms answered this question representing 91% of all firms in the survey.

The key findings are that a broad range of factors were behind the decision to employ apprentices, though the dominant factors relate to a rising volume of work in the business and difficulties in obtaining or retaining skilled labour. The most frequently selected reasons for taking on apprentices in 2004 in descending order were 'increased workload' (nominated by 66% of businesses), followed by 'recruiting tradespeople to become employees was too expensive or difficult' (38%); 'government subsidies made it more affordable to employ apprentices' (34%); 'had to replace apprentices that left' (32%); 'hiring subcontractors or labour hire tradespeople was too expensive or difficult' (23%); 'publicity about trades' shortages' (19%); 'apprenticeship system is more flexible than it used to be' (17%); 'other reasons' (16%); 'recently set up the business' (12%); 'better quality applicants' (10%); and 'increase in the number of applicants' (5%).

Broadly similar results, in terms of the ranking of the factors behind the rise in apprentice intake, were obtained when employers were asked to identify the 'single most important reason for taking on an apprentice in 2004'. 534 firms or 76% of all firms answered this question.

The most frequently selected 'single most important reason for taking on an apprentice in 2004' in descending order were 'increased workload' (nominated by 33% of businesses), followed by 'recruiting tradespeople to become employees was too expensive or difficult' (16%); 'had to replace apprentices that had left' (14%); 'publicity about trades' shortages' (5%); 'government subsidies making it more affordable to employ apprentices' (5%); 'hiring subcontractors or labour hire tradespeople was too expensive or difficult' (4%); 'better quality applicants' (2%); 'apprenticeship system is more flexible than it used to be' (1%); and 'increase in the number of applicants' (.4%). 'Other reasons' were identified by 17% of firms.[5]

Again, the dominant reasons relate to the volume of output by the business, difficulties in obtaining skilled labour in the external labour market or retaining skilled labour. Over half of all firms (53%) identified these combined factors as the single most important reasons for taking on an apprentice. If replacing 'apprentices that had left' (14%); 'publicity about trades' shortages'

[5] Of the 73 firms that selected 'Other' as the single most important reason for taking on an apprentice in 2004 and provided a description of these reasons 5 firms identified a 'lack of quantity of tradespeople in the external labour market'; 4 firms a 'lack of quality of tradespeople in the external labour market' and 2 firms identified the need to 'replace tradespeople who had retired or left'. These 11 firms comprise 2.1% of all firms that identified a single most important reason for taking on an apprentice in 2004.

(5%) and concerns about lack of quantity/quality of tradespersons in the external labour market and replacing tradespersons who had retired or left (2%) are added to these reasons then nearly three quarters of employers (74%) of firms identified factors related to the volume of work and difficulties in the adequacy of skilled labour supply as the single most important reasons for taking on an apprentice in 2004. Of particular note is that only 6% of firms identified factors that are directly influenced by government policies as of greatest importance. These factors are government subsidies (5%) and enhanced flexibility in the apprenticeship system (1%).

In other words, the great majority of firms identified factors that are not the subject of direct government training policy as the principal reason for employing an apprentice. It is clear that around 2003-2004 many employers 'hit the wall' in terms of their capacity to produce as a result of strong and sustained economic growth which increased the demand for tradespersons. As noted earlier, the supply of trades labour has been constrained by rising barriers to employer investment in apprenticeships over the last 10 years.

Firms have been using a variety of alternative strategies to training to deal with labour shortages. These include using existing labour resources more intensively (such as increased overtime) and relying on the existing pool of skilled labour in the external labour market, through, for example, the use of labour hire and outsourcing strategies (Watson, Buchanan, Campbell and Briggs 2003). There were, arguably, limits to this strategy and these limits prompted the large spike in apprentice intake in 2003 and especially 2004.

It was noted earlier that apprentice completion rates have declined significantly over the last five or so years. This is due to the buoyant labour market for trade skills, which has prompted apprentices to cease training before they complete their contract of training and seek employment and higher remuneration as tradespeople.[6] Kapuscinki (2001: 24) found that over the last forty years strong economic growth and rising employment vacancies is a signal to apprentices of 'higher paying jobs in the labour market [and] results in an increase of cancellations relative to completions'. In addition to a higher rate of non-completion, it is also likely that booming economic conditions increase labour mobility of apprentices through apprentices terminating their employment with one employer and finishing their training with another. Non-completion and increased mobility of apprentices has a considerable effect on employers' propensity to train. Replacing apprentices that had left was the third single most important reason for taking on apprentices in 2004, nominated by 14% of all employers. This suggests an interesting dynamic is at work in that buoyant labour market conditions give rise to increasing apprentice intake and higher non-completion rates, though it is evident from rising numbers of apprentices in-training that the former effect outweighs the latter.

In summary, around 2003-04 the combination of rising workloads, expense or difficulty in attracting skilled labour from the external labour market or retaining apprentices or tradespersons within their firms, stimulated employers to meet their skilled labour requirements by significantly increasing their investment in training.

3.2.2 Apprentice Intake in the Next Twelve Months

218 firms answered 'yes' that they would take on apprentices over the next twelve months and estimated their prospective intake (Table 3B). For those that indicated 'yes' the expected mean intake per firm for 2005-06 was 2.3 persons, which is significantly above the actual mean intake

[6] Ball and John (2005) only provide an explanation of differences in non-completion rates across various categories of apprentice, such as age, occupation and prior education, on the basis of differences in 'labour mobility' across these categories. Labour mobility is the propensity of persons in a given time period to move between employers. They did not provide an explanation of the causes of the overall rise in non-completion rates.

of 1.7 persons per firm in 2004. 87% of firms expected to take on 3 or fewer apprentices. The maximum expected intake was 23 apprentices.

Not only is the expected mean intake above the actual average for 2004, but the proportion of firms who plan to take on apprentices in two consecutive years (that is 2004 and 2005-06) is above average. 32% of firms who took an apprentice on in 2004 plan to take another one on in 2005-06. Based on data of the population of employers of apprentices in NSW from the NSW DET database between 1997 and 2004 24% of firms on average had an intake of apprentices over two consecutive years.

This data indicates the high level of apprentice intake in 2004 could be sustained in 2005-06. This must be treated with caution as there is no research on how employer apprentice employment intentions are translated into actual employment intake. Nonetheless, there is some support for this finding as the most recent data for NSW indicate that in the first 8 months of 2005, compared to the same period in 2004 in NSW, the high level of intake in 2004 has been maintained with a decline of only 1.2% recorded for 2005 (NSW DET 2005).

Another finding derived from the NSW DET database that has potentially significant policy implications is that growth in the level of apprentice intake is almost entirely the result of growth in the number of firms taking on apprentices rather than an increase in the number of apprentices taken on per firm. Over the period 1997 to 2004 the number of apprentices in NSW increased by 29% from 13,238 to 17,122, whilst the number of firms employing apprentices increased by 26% from 8,027 to 10,098. There is very little variation in the mean intake per firm over the period.

3.2.3 What Would Encourage Employers to Take on More Apprentices?

567 firms (or 81% of all firms) answered the question ‘what would encourage your business to take on more apprentices?’ (Table 3C). Multiple responses were permitted. This was an open-ended question, the responses to which were coded by the researchers into 9 categories.

The most important factors were ‘higher government incentives to employ apprentices’ identified by 38% of firms who answered the question. Typical responses include:

Further rebates. Apprentices take time to train and are non-productive for the first 2 years. Tradespeople lost time whilst training them.

A better subsidy from the government and I mean on a weekly basis. At this point I feel the government doesn't care about the hardships involved with employing young people and spending time to train them in a skill that will cause them to be able to earn a good living and not be on the unemployed list.

No doubt the government subsidies are helpful in taking on apprentices as this is a commitment financially for our business. Particularly in the restaurant trade we are faced with high costs in running our business -staff being a major one. Therefore, being able to provide a great start for a chef with rewards for us makes it appealing and satisfying. However a 4 yr apprenticeship is a long running commitment which could be supported with an 'on-going' payment to employers not just commencement and completion payments.

More government help. The subsidies are pitiful to say the least. The subsidies don't even cover workers compensation let alone the TAFE fees or compensate for time left/lost while at TAFE training.

The large proportion of firms identifying higher government incentives as a factor that would encourage them to take on more apprentices is similar to the proportion of firms (34.2%) who identified 'government subsidies' as a 'reason for taking apprentices on in 2004'. The large proportion who stated 'higher government incentives' would encourage them to take on more apprentices stands in marked contrast to the small proportion of firms who identified 'government subsidies' as 'the single most important reason for taking on an apprentice in 2004'. These large differences can be explained by reference to a key finding in the labour economics literature that the principal determinant of change in the level of employment within firms is change in their level of output, and other factors such as change in the level of real wages are a secondary factor.[7] This finding is consistent with the survey result that 'increasing workload' was the single most important reason for taking on an apprentice in 2004. When asked to consider what would lead them to employ 'more' or additional workers it would seem many employers interpreted the question as implying 'what would encourage you to take on more or additional apprentices at or near your current level of output?' In considering what would lead them to employ an additional worker for whom there is not quite enough work, higher government subsidies could make it economic to employ a marginal worker.[8] Studies of apprentice wage subsidies find they can lift the level of apprentice employment at the margin.[9]

The second most important reason was 'Higher workload/if the business was bigger' was identified by 37.2%. This simply reflects the importance eof the demand variable in explaining apprentice intake.

The third most important factor was 'higher quality/reliability of applicants' identified by 17.1% of firms. Typical responses included:

Our business would take on more apprentices if the calibre of applicants were of a higher standard and if the "apprentice" valued the training and opportunity presented to them. This comes down to career advice at school.

If we could find a young person who wanted to work.

The most critical aspect of recruitment with apprentices is the lack of quality in applicants. My business would take on up to 50 apprentices if the right applicants were available.

If there were people interested in learning the trade I would try some out but I find it hard to find these people. I would be encouraged to put more on if there was more help financially as it costs money to put them on then they leave not long after (three months).

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[7] In Australia the study by Merrilees (1983) and DEETYA (1997) found the 'major single influence on the number of apprentices employed is the expected level of sales or activity. The demand for apprentices is thus derived directly from the demand for the firm's product' (DEETYA 1997: 31).

[8] Another reason for the priority given to government subsidies by employers is that some employers viewed higher government subsidies as a means of increasing apprentice wages. In answer to another question 'what changes would you like to see to apprenticeships?' 62 firms said they wanted higher wages and/or benefits for apprentices, of whom 27 firms stated one way to achieve this increase was higher government wage subsidies or other benefits.

[9] The introduction of the first national subsidy for the employment of apprentices, the CRAFT scheme, in 1974 'had an immediate effect on the number of opportunities being offered by employers to apprentices... [as] apprentice numbers jumped by over 12 per cent between 1973 and 1974' (NCVER 2001: 13). Another study using data from the 1970s to the early 1990s estimated the elasticity of apprentice employment with respect to apprentice wages. It was found that the variety of subsidies directed at increasing 'marginal' employment of apprentices that is, only paid for additional apprentices had no effect on total employment. However, other subsidies paid to all apprentices, regardless of 'additionality', were found to have increased the stock of apprentices. (DEETYA 1997, p. 85).

Other factors that would encourage employers to engage more apprentices include, 'lower costs (workers' comp/statutory charges)' (7%); 'improve TAFE' (6%) and 'reduce paperwork associated with apprenticeships' (4%). Interestingly, only 2 firms (0.4%) suggested reducing wages, whilst 3% of firms recommended 'higher government incentives to enable an increase in apprentice wages'.

3.2.4 What Changes Would Employers Like to See to the Apprenticeship System?

476 firms (or 68% of all firms) answered the question 'what changes would you like to see to apprenticeships?' (Table 3D). Multiple responses were permitted. This was an open-ended question, the responses to which were coded by the researchers into 18 categories. One-third of firms in the survey did not answer this question and another 79 firms (11% of all respondent firms) suggested no change to the current system. If non-response is taken as implying a lack of urgency to change the current system, this implies that 44% of firms are relatively content with the current system.

Other surveys of employers find a high proportion of firms expressing overall satisfaction with the VET system in general. The Ai Group undertook a survey of 328 firms in engineering, construction and automotive industries in the Hunter region of NSW in 2004 (Ai Group 2005: 6). Respondents to the survey were asked if they believed the apprenticeship system still meets trade development needs. Overall, 86% of firms responded positively (Ai Group 2005: 11). The study also concluded there is 'overall support for the current delivery of training by TAFE and other providers. On average 4 in every 5 employers were satisfied that providers were meeting their skill requirements' (Ai Group 2005: 12). Regular national surveys of employer views of VET were conducted every two years from 1995 to 2001 by the National Centre for Vocational Education Research. (The latest survey is currently underway). The key result of the surveys is that 'overall satisfaction with the VET sector was high' (NCVER 2001: 2).

Employers that did respond to this question identified a very broad range of changes they would like to see to the apprenticeship system, though it is interesting that no single change attracted a high proportion of firms. 'Higher government incentives for employers' (18.1%) were the most commonly identified change. 13% of employers wanted more income for their apprentices either in the form of higher wages and/or higher government subsidies to be paid directly to apprentices. Only 1 firm (0.2%) stated they wanted a reduction in apprentice wages.[10]

Higher apprentice wages were supported on the basis that they would attract higher quality applicants and on equity grounds. Typical of these comments are the following statements from employers:

Low wage levels in the first couple of years deter some of the better applicants.

apprentices…feel underpaid compared to friends who may not be training as an apprentice and they receive considerably more pay

Higher wages so apprentices stay!

More incentives for the apprentice and employer. They are on such a low wage it is a fine line between getting the dole and working a 38 hour week for not much more money. Something has to be done to encourage more young kids to want a trade [as] the low wage just turns them off.

[10] A large scale survey of employers' of apprentices conducted in the mid 1990s also found 'very little support among employers for the notion of a reduction in apprentice wages' (DEETYA 1997: 45). This was because such a fall 'would be accompanied by a decline in the average quality of the apprentice intake. Second, many [employer] respondents stated that the apprentice wage should not be reduced as it would be inequitable to do so' (DEETYA 1997: 48).

I think that most apprentices, like the one we have employed deserve higher wages to help keep them motivated in their chosen trade.Make apprenticeships more lucrative - incentive payments to apprentices to do well. Apprentice wages are very ordinary. Tool purchasing assistance, vehicle assistance, education assistance would all make apprenticeships more appealing. Who really would want to take a trade on when you can get paid to do nothing or sit behind a computer etc in an air conditioned office and earn a fortune. No wonder there are no apprentices. I've just finished work on the Grafton TAFE - maybe 50 tradesmen over 40 and not an apprentice in sight.

Examples offered by employers of government support they sought for apprentices included:

1.Tool allowances paid by government. 2. Free travel whilst attending TAFE on public transport

Apprentice pay no tax

Several employers specifically mentioned the difficulty low wages pose for adult apprentices-

Increase apprenticeship wages as current wages are not realistic for an adult to live on and this is a major contributing factor to the decrease in trade apprenticeships being taken up in our industry.

Aside from the level of subsidy 4.6% of firms who answered the question suggested changes to the structure of incentives. For example,

Change the payment system for subsidies. As there is a large percentage of businesses that don't start apprentices, there is an equally large number who "poach" 3/4 [year] trained apprentices. Under the current system these businesses "restart" the apprentices, pick up the restart subsidy and then completion payment - all this without actually doing the training, while the business which did all the training misses out on the subsidies they should get, as well as the final productive year benefit of the "qualified" apprentice. This I can assure you is the no. 1 deterrent when considering employing an apprentice.

Government subsidies - I would like to see the loophole closed up where some employers receive all financial support from employing a kid to flip hamburgers for 12 months, then when a job comes along offering a 4 yr apprenticeship and real long term future employment there is no financial assistance offered.

To make at least three part payments before the four year apprenticeship to help the employer cover some of the wages.

Issues to do with TAFE and off the job training were also prominent, including enhanced 'flexibility of delivery, scheduling of classes etc' (11%); 'more relevant TAFE courses/improved off the job training' (11%); 'reduce the term of training' (6%); 'excessive travel times for apprentices to get to TAFE' (4.0%); 'substitute in part or whole of TAFE training for on the job training' (3%); and 'more resources for TAFE' (1%).[11]

Increased promotion of apprenticeships in schools and increase in pre-apprenticeships was nominated by 7% of firms. Typical response included:

[11] Similar results were obtained in the Ai Group (2005) survey of firms in the Hunter. For example, of those firms who said the apprenticeship system does not meet their needs 4% wanted a reduction in the term of training and 18% higher government incentives (Ai Group 2005: 12).

1. Very often 1st or 2nd year apprentices are of low value to the business. 2. We would be more willing to consider apprentices already with good skill levels - say 1 or 2 year trained at TAFE eg. an Advanced Apprentice Scheme.

In year 9 and 10, students should be placed in the workforce for at least a month a year. This would show students a lot more about the trades, thus giving them a more guided choice on a career.

More marketing to schools - coordinated effort by region with employers (like uni information days) where potential candidates can meet with employers in a trade show type environment.

Maybe if apprentices did a pre-employment course to replace 1st year tech so tech would only be for 2 years during employment or term of apprenticeship

Greater government subsidies for the apprentices so they can afford to have/do an apprenticeship. Currently, their training is subsidised by parents, which disadvantages many. Also there is a public/societal perception that mechanical apprenticeships are for those students who are not academically minded, whereas the level of intellect required now for these apprenticeships is very high. I believe a "campaign" to change this perception would be beneficial in attracting a broader range of students to the industry.

The TAFE or government has a strict pre-apprenticeship entry level for employers to gauge with before engaging an apprentice eg. pre apprenticeship courses that individual apprentices have to pass before being able to apply for positions. Say 6 month course full time, not forming part of apprenticeship. I think the government incentive payments are too low, so an increase in incentives would be an encouragement. Also a need for woodwork and metalwork at high school should be pushed more so that at present. It seems the computers are taking over electives. Computers do not teach kids tools and hand skills. Pre-apprenticeship schemes so the future apprentice/employee has a basic understanding to OH&S and what is required of him. Also an understanding of the importance of employment/respect for the trade and their employers.

3.3 Firm Size Variable

In the sample of 703, firms 561 firms (80%) had 20 or fewer employees and 142 firms (20%) had more than 20 employees.

3.3.1 Reasons for Employing Apprentices in 2004

There is, in general, a close correspondence between small and large firms in the ranking of the reasons firms selected for taking on an apprentice in 2004. For example, 34% of small firms and 35% of large firms nominated 'government subsidies' as a reason for taking apprentices on in 2004. Of note is that there is little difference between large and small firms in the importance they attach to enhanced flexibility in the 'apprenticeship system' as a reason for taking on apprentices in 2004. There are however, some important differences in the proportion of large and small firms that selected some of these reasons. For example, twice as many large firms (31%) as against small firms (15%) nominated 'publicity about trades' shortages' as a reason for taking on apprentices. Why larger firms should be so much more influenced by this external factor is not known. Similarly, 41% of large firms compared to 30% of small firms nominated that they 'had to replace apprentices that left' as a reason for taking on apprentices.

On the other hand, over two thirds of small firms compared to just over 50% of large firms selected reasons to do with increasing work-load. In addition, a much higher proportion of small firms (14%) compared to large firms (3%) nominated having 'recently set up the business' as a

reason for taking on apprentices. This simply reflects the dynamics of firm creation whereby almost all newly established employing firms start with a few number of employees (Revesz and Lattimore 1997).

Similar results apply when firms are asked to specify the single most important reason for taking on an apprentice. Of particular note is that 35% of small firms selected 'increasing workload' compared to 22% of larger firms. This difference is due in part to the fact that larger firms have a more regular intake of apprentices compared to smaller firms. Most small firms take on apprentices very infrequently. It could also reflect the fact that larger firms, in general, have more spare production capacity than smaller firms. In other words, smaller firms have more need to put on additional staff to cope with a given proportional increase in output compared to larger firms, who are more able to handle an increase in output from existing resources. Difficulty in hiring subcontractors or labour hire tradespeople was much more important for smaller firms 5% of whom identified it as a single most important reasons for taking on an apprentice in 2004 compared to just 0.9% of larger firms. Larger firms are more influenced by publicity about skill shortages with 8% reporting it as a key factor compared to 5% of smaller firms. 19% of larger firms reported that having to replace apprentices that left was the single most important reason for taking on an apprentice compared to 13% of smaller firms. This difference is almost certainly due firstly, to the higher propensity of larger firms to employ apprentices and secondly, that larger firms on average employ more apprentices than smaller firms.[12] Assuming the tendency for apprentices to leave a firm is invariant with respect to firm size larger firms will have a higher probability of apprentices leaving in any given period than smaller firms.[13]

3.3.2 Apprentice Intake in the Next Twelve Months

689 firms or 98% of all firms in the sample answered the question about future apprentice intake. A much higher proportion of larger firms than small firms indicated 'yes' or 'maybe' that they would employ additional apprentices in the next twelve months. (Table 3F) 62% of larger firms indicated yes and 89% indicated yes or maybe. Just over one quarter (25%) of smaller firms indicated yes and 64% indicated yes or maybe.

This difference simply reflects the fact that larger firms have a more regular intake of apprentices than smaller firms. Based on data from the population of employers of apprentices in NSW between 1997 and 2004 in the NSW DET database the great majority of firms that employ apprentices take on apprentices infrequently. Of the 45436 NSW firms that employed an apprentice between 1997 and 2004 63% employed just one apprentice over the eight year period. 81% of firms employed 2 or less apprentices. (These firms accounted for 39% of all apprentices taken on over the period).

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[12] The propensity of firms to invest in apprentice or trainee training increases with firm size. In 2002 12 percent of firms with less than 20 employees engaged apprentices or trainees. For firms with 20-99 employees 25 percent had apprentices or trainees and this increased to 50 percent for firms with 100 or more employees (ABS 2003: Table 17). Similar trends apply with respect to overall employer funded training with just 31 percent of firms with less than five employees providing such training compared to 70 percent of firms with 20 or more employees and 98 percent of firms with 100 or more employees (ABS 2003: Table 2).

[13] It is assumed that the observed difference in the proportion of large and small firms reporting the need 'to replace apprentices that left' is not due to higher non-completion rates in larger firms. In fact there is some basis for assuming that larger firms have higher apprentice completion rates. Both the government sector and group training have a much higher apprentice completion rate than the private sector as whole and average 'firm size' in the latter is smaller than in the former (Ball 2004: Table 2).

421 firms answered the question regarding the number of apprentices they plan to take on. 308 small firms (55% of all small firms) and 113 large firms (80% of all large firms) answered this question. The average projected intake over the next twelve months amongst small firms was 1.4 apprentices and 3.0 apprentices for large firms.

3.3.3 What Would Encourage Employers to Take on More Apprentices?

567 firms responded to this question (81% of all firms) of whom 454 were small firms (81% of all small firms) and 113 large firms (80% of all large firms). (Table 3G)

A slightly higher proportion of larger firms (43%) recommended 'higher government incentives to employ apprentices' compare to smaller firms (37%). Government subsidies may be marginally more important to larger firms since they employ on average more apprentices and it may be the case that with larger firms the decision to employ additional apprentices (and other workers) is more likely to be based on a formal cost-benefit analysis in which government subsidies may comprise one of the elements in the computation. Nevertheless, the differences between small and large firms on this question are quite small.

A higher proportion of smaller firms identified a 'higher workload' or requirement for a bigger business as a factor that would encourage them to take on more apprentices. 39% of smaller firms identified this factor compared to 31% of larger firms. This is consistent with the results of the earlier question in which 35% of smaller firms stated 'increasing work load' was the 'single most important reason for taking an apprentice on in 2004' compared to 22 % of larger firms.

11% of larger firms nominated improvements in TAFE compared to 4% of smaller firms. The greater propensity for larger firms to suggest improvements to TAFE is due in part to the fact that larger firms are more likely to have a dedicated training department and this specialist knowledge may heighten expectations regarding quality and availability of training. Larger firms also use a much greater range of training providers than smaller firms (ABS 1998: Table 2.20). This wider experience may also make them more critical of training providers.

Reducing 'paper work associated with apprenticeships' was identified by 4% of smaller firms compared to just 0.9 % of larger firms.

3.3.4 What Changes Would Employers Like To See To Apprenticeships?

476 firms answered this question representing 68% of all respondents. 376 were small firms (67% of all small firms) and 100 were large firms (70% of all large firms). (Table 3H)

There was little difference across firm sizes in the proportion of firms that wanted no change to the apprenticeship system. 19% of larger firms suggested 'no change to the current system' compared to 16% of smaller firms.

The change suggested by most firms was 'higher government incentives for employers' suggested by 19% of small firms and 14% of large firms. There was no difference in the proportion of small or large firms requesting 'higher wages' for apprentices or 'higher government incentives directly to go to apprentices', which was suggested by 13.0% of both groups. Smaller firms were more focussed on higher government subsidies and lower employment on-costs than larger firms.

3.4 Industry Variable

3.4.1 Reasons for Employing Apprentices in 2004

The distribution of firms by industry answering this question is provided in Table 3I.

There were a number of key differences across industries in the identification of the 'single most important reason for taking on an apprentice in 2004'. (Table 3J) 'Increasing work load' was identified by 40% of construction firms, 39% of Personal Service firms compared to just 14% of 'Other' firms. 'Increasing work load' was also important for manufacturing firms, as this factor was identified by 35% of firms in this industry as the 'single most important reason for taking on an apprentice in 2004'.

Difficulty or expense in recruiting tradespeople was especially important for manufacturing industries (28%) and Food (25%) but not so important for Personal Services (7%).

Unsurprisingly, difficulty or expense in hiring subcontractors or labour hire tradespersons was more important to the construction industry (7%) than any other industry. No manufacturing firms nominated this as a factor.

Having 'recently set up the business' was most important for Personal Service industries (10%) with only 1% of construction firms and no manufacturing firms nominating this as a factor.

Having to 'replace apprentices that had left' was especially important for the Food industry with 36% of firms indicating this as the single most important reason for taking on an apprentice. This result is consistent with other studies which find that the Food industry has the highest non-completion rate of all trades (Ball and John 2005).

3.4.2 Apprentice Intake in the Next Twelve Months

Overall, 32% of firms indicated that 'yes' they would employ an apprentice in the next twelve months, though 48% of food firms answered 'yes' as did 40% of personal service and 40% of manufacturing firms. (Table 3K) Only 26% of construction firms indicated they would take on an apprentice.

The higher proportion of food firms answering 'yes' is consistent with both the increase in training rates in this industry evident in 2004 but also the high non-completion rate of apprentices in this industry which results in a high annual turnover of apprentices (Ball 2004: 8).

In interpreting these results it is crucial to consider that the pattern of apprentice intake across industries almost certainly varies. In some industries such as construction the growth of output is achieved mainly by the growth of new firms, which accounts for the fact that average firm size in construction is only around 2 persons. In other industries, such as manufacturing the growth of output is achieved mainly by growth in the size of existing firms. It cannot be assumed therefore that construction will experience a rate of growth of apprenticeships in the next twelve months substantially below that of other industries, as many new firms may enter this industry and these new firms may employ apprentices. On the other hand, since it is generally accepted that construction output has already peaked and is likely to decline over the next twelve months the survey results are consistent with a rate of growth of apprentice intake that is below average of all other industries.

There was little difference across the six industries in terms of the number of apprentices the businesses planned to employ in the next twelve months. Around 88% of all businesses across

the six industries stated they would take on up to two apprentices. The mean intake varied from a low of 1.6 apprentices per business for Personal Services to a high of 2.3 apprentices per business for Other industries.

3.4.3 What Would Encourage Employers to Take on More Apprentices?

All industries identified 'Higher government incentives to employ apprentices' and 'higher workload/if the business was bigger' as a principal factor that would encourage them to take on more apprentices (Table 3L). Government incentives were most important for construction and personal services firms nominated by 43% and 41% of firms respectively. By contrast 31% of manufacturing firms suggested higher government incentives.

3.4.4 What Changes Would Employers Like To See To Apprenticeships

Whilst 476 firms representing 68% of all respondents answered this question the firms identified a very broad range of factors. These were coded into 18 separate responses. Only a relatively small number of firms were allocated to each coded response. 13 of the 18 coded responses had 50 or fewer firms allocated to it and 10 responses had less than 22 firms. This implies that for 10 responses the maximum number of firms in each cell is less than 4, and for 13 of the responses the maximum cell size is less than 9. The relative standard error of most of the responses is above 25%, consequently, the data must be treated with caution, in terms of extrapolating from the survey to the population of employers of apprentices (Table 3M).

4. Email Survey of Group Training Managers

4.1 Introduction

The respondents to the email survey of Group Training Managers were self-selected in that only those GTOs that had experienced 'a significant rise in apprentice intake in 2004' were asked to participate. The GTOs were located in NSW, Queensland and Victoria. Group Training Managers were asked to identify the causes of the growth of apprentice intake amongst their host employers in 2004. Twelve Group Training Managers responded to the survey. The Managers were asked similar questions to those in the Mail Survey of employers and the responses correspond closely.

4.2 Survey Results

GTO Managers highlighted the role of increasing work load, difficulty in recruiting trades in the external labour market and publicity about skills shortages as leading to the growth of intake in 2004 amongst their host employers (Table 4A).

Apart from the positive external environment that facilitated the growth of GTO apprentice intake in 2004, eleven of the twelve GTOs had a deliberate strategy of simultaneously increasing their apprentice intake and host employer base over this period (Table 4B). The strategy entailed employment of marketing managers and sales teams targeting schools and host employers; conducting information sessions on the career opportunities for tradespersons for students and teachers at schools; targeting prospective apprentices by conducting pre-vocational courses; working with Registered Training Organisations to identify potential host employers and apprentices and using government programmes such as the DEST TIP to increase intake.

Changes to government incentives to GTOs for the employment of apprentices were of no importance or marginal importance to ten of the twelve GTOs (Table 4C). This result is broadly consistent with the results of the employer mail survey, wherein less than one in twenty private employers regarded government incentives as the single most important reason for taking on an apprentice in 2004.

It will be recalled that there was modest support amongst employers for the proposition that there had been an improvement in the quality of applicants for apprenticeship vacancies, with nearly one in ten firms selecting this as a reason for taking on an apprentice in 2004. Three GTOs (25%) stated there had been an improvement 'in the quality or suitability of applicants' (Table 4D). This improvement was attributed mostly to increased marketing effort on the part of GTOs. One GTO has suggested that there has been a noticeable decline in the suitability of applicants.

Three GTOs (25%) stated there had been 'an increase in the ratio of applicants to apprentice vacancies over the last 1 or 2 years' (Table 4E) (One GTO stated it was 'quite the opposite'.) The three GTOs reporting a lift in the quantity of applicants also had an increase in quality of applicants. The increased ratio of applicants was attributed to a combination of booming economic conditions (presumably increased knowledge of trade skill shortages and rising vacancies); government advertising and promotional effort on the part of GTOs.

The factors that would ‘encourage’ the GTOs to ‘take on even more apprentices’ were similar to those factors identified by direct employers. These factors are a higher level of demand (either in terms of a continuing buoyant economy or increased demand from host employers); increase in government support for GTOs to employ apprentices and improvement in the quality of applicants for vacancies (Table 4F).

Again the changes that GTO Managers ‘would like to see to apprenticeships’ were very similar to those amongst direct employers. These changes included an increase in apprentice income through higher wages, tax concessions on apprentice income or government subsidies (Table 4G). Higher apprentice income was supported as a means of improving the quality of applicants or on equity grounds. Other changes sought were implementation of competency based training to reduce the term of training; and criticisms of TAFE mostly in terms of an inability to enrol apprentices as a result of inadequate number of classes and more flexibility in training delivery and assessment.

5. Apprentice Focus Groups

5.1 Background

A series of focus groups were conducted with thirty six apprentices in NSW. All the apprentices were in the second year of their apprenticeship, that is, they had started their training in 2004. Focus groups were conducted with ten carpentry and seven bricklaying apprentices at Skills West located in Penrith and nineteen electrical apprentices at Electrotechnology Industry Group Training Co Ltd located at Rhodes. The focus groups were organised to coincide with the apprentices receiving off the job training at the Group Training Organisations. Both Group Training Organisations are Registered Training Organisations. The majority of apprentices were employees of the Group Training Organisations with the remainder employed by private firms.

The purpose of the focus groups was to identify:

- the factors leading apprentices to choose to do an apprenticeship rather than undertake other employment and study. In particular, to what extent did publicity about apprenticeships and skill shortages prior to 2004 affect their decision-making.

- those apprentices who had considered university study but had opted for an apprenticeship. This was part of the study's broader objective to investigate the extent to which an improvement in the quality of applicants for apprenticeship vacancies was behind the rise in apprentice numbers in 2004.

GTOs were selected as the site of the focus groups largely due to the convenience of having aggregations of apprentices with the characteristics sought. Construction and electrical apprentices represent approximately 40% of all apprentices taken on in Australia in any given year. This was seen as a good mix of abilities and attitudes amongst apprentices as the electrical apprentices are generally regarded as having on average higher academic performance, especially in mathematics.

Around 80% of the focus group participants were school leavers (having completed their Year 12 certificates). A small number (8 of 36) had previous work histories varying from a few months to several years. These occupations were generally casual labouring and other manual labour oriented jobs.

The participants ranged from 18 to 23 years of age. Most were either 18 or 19. Over 90% of the apprentices had completed their Higher School Certificate.

5.2 Key Findings

The key findings of the focus groups were:

Firstly, the reasons for undertaking an apprenticeship clustered around issues to do with wanting a job with skills recognised through a qualification as this was seen as providing some insulation from the uncertainties of the labour market. One apprentice commented that 'it's more worthwhile. You do four years and it gets you somewhere rather than just working for four years for money. Even if not for a career at least it is something you can fall back on'. In addition the prospect of a reasonable income; preference for physical or outdoors work; prospect of running their own business and prospect of independence attached to such a business and reluctance to undertake further full-time study. For some their choice reflected a

vocation, in the sense that the occupation they selected is something they wanted to do for some time and was more than a job. One electrical apprentice stated he felt 'proud to be an electrician', whilst another 'had always wanted to be a carpenter'. These reasons are similar to those identified by generations of apprentices. The overall impression was that the apprentices valued the prospect of entering a trade- as one apprentice commented getting accepted to an apprenticeship 'was an opportunity that came along once, what was the chance that it would come along again'.

Secondly, most of the apprentices made the decision to enter a trade in the later years of school. Having a parent or relative in the trades is also important in raising awareness of trades based employment. Most were aware of trade skills shortages at the time of the decision and for a few that these shortages could translate into higher wages for tradespeople. 'In the future as an electrician you earn just as much money as anyone who started a good course at uni'. However, offsetting this recognition of skill shortages is that some apprentices were also aware that there had been a large increase in apprentice vacancies in response to the shortages and that the resulting future increase in tradespeople could counter any of the benefits flowing from the shortages. On balance, an awareness of trades' shortages was a positive factor in their decision to undertake an apprenticeship.

Thirdly, a minority reported an awareness of publicity for apprenticeships prior to 2004, though interestingly, more apprentices noticed these advertisements after they had commenced their training as the advertisements seemed more relevant to them. One possible implication to come out of the focus groups is that government advertising to promote apprenticeships could target the main traditional reasons identified above for people undertaking apprenticeships as well as greater emphasis on skill shortages and the resultant buoyant labour market conditions for tradespersons. General government publicity about apprenticeships appears to be a very minor consideration compared to other factors.

Fourthly, the apprentices employed by a GTO clearly articulated their preference for working for a GTO in terms of perceived greater job security and more varied work experience. Some suggested it was easier to get a job in a GTO compared to having to contact many individual private employers for a vacancy.

Finally, three of the electrical apprentices had (fleetingly) thought about going to uni at school, but had rejected it on the grounds that they preferred the combination of study and income provided by an apprenticeship. They were reluctant to participate in further full-time study and believed the income they could make as a licensed electrician was as much as a uni graduate. The issue of high uni fees was at most a minor factor. In addition, two of the three electrical apprentices stated they considered university as a future option for their career development, such as the study of electrical engineering. Undertaking a trade did not preclude later advanced study, rather it was seen as a steeping stone to such study. This finding does have potential implications for apprenticeship marketing strategies, where more academically able students could be influenced to view an apprenticeship as an alternative pathway to future tertiary studies.

6. Conclusions: Policy Implications

A number of important policy implications are suggested by this study.

First, the current high level of skill shortages highlights one of the consequences of the withdrawal of the public sector as a large direct employer of apprentices over the last two decades. Fortunately, there has been an increase in public sector intake in recent years. This has taken numerous forms such as significant increases in apprentice intake by state governments Government departments and instrumentalities (NSW Government 2005). Governments are also using their large public works procurement budgets, including public-private partnerships, to mandate certain levels of training, including apprentice training (NSW Government 2000). Similar provisions apply for example to the Commonwealth defence domestic procurement under the Skilling Australia's Defence Industry programme. Governments are in a unique position to maintain a high level of apprentice intake to stabilise the supply of tradespersons. The key policy issue here is how to reconcile the need for government to supply such 'public goods' on the one hand and the requirement placed on government instrumentalities by National Competition Policy to act like profit maximising corporations.

Second, one consequence of the buoyant economy is greater job mobility and rising apprentice non-completion rates. Rising non-completion partially offsets the benefits of rising intake. One possible measure to reduce non-completion is for government to provide a payment directly to apprentices at the completion of their training. As suggested by many employers surveyed for this study, other measures to increase completion rates include improving prospective apprentices' knowledge of employment and working conditions in the trades.[14] This could be done by improved careers guidance at school; improving school work experience programmes; better linkages/incentives for intermediaries and employment brokers to provide more effective matching arrangements. Expanding pre-apprenticeship programmes would be a cost-effective means of lowering non-completion rates as persons who completed pre-apprenticeship programmes have a higher completion rate than other apprentices. Pre-apprenticeship programmes provide an opportunity for young people to try out the job and see if they are suited to it. Improved vetting of prospective employers to ensure they undertand their employment and training responsibilities and can deliver appropriate training.

Third, properly structured financial incentives are effective at the margin in inducing employers to offer additional apprentice places. The combination of persistent trade skill shortages and scarce public funds for the encouragements of investment in training is a powerful argument for re-balancing financial incentives to apprenticeships and from traineeships. The great bulk of traineeships are in relatively low skill occupations which are not subject to shortages requiring state intervention (Toner 2002). Changes to Commonwealth incentives after July 2003 to address these issues were helpful, but could be extended. In addition, it is evident from the survey responses that some employers are mis-informed about incentives. Importantly, there is no support for a reduction in the level of apprentice wages. Higher apprentice wages are supported on the basis that they attract higher quality applicants and on equity grounds.

Fourth, lifting the quality of applicants for vacancies is an important measure that was demanded by employers. Promotional campaigns to attract young people could emphasise the

[14] Cully and Curtain (2001) in their comprehensive study of non-completion found that problems in the employment relation, due for example to unrealistic expectations on the part of the apprentice about working conditions and pay, or poor relations between the apprentice and employer were the predominant factors in non-completion. Also important is inadequate on-the-job training provided to apprentices which makes them feel they are being used simply as 'cheap labour'.

traditional attractions such as autonomy, gaining a recognised qualification and a reasonable income. In addition such campaigns should highlight trade training as an alternative pathway to future tertiary studies. This could be influential at the margin in attracting more academically able students who may mistakenly regard the choice between trade training and tertiary study as conflicting alternatives. There is also considerable scope for an expansion in the pool of prospective apprentices, by attracting more females and older workers. The share of female apprentices in non-traditional trades has not increased over the last decade.

Fifth, structural changes in the economy have increased the barriers for firms to the direct employment of apprentices. This emphasises the importance of Group Training as a labour market intermediary in redressing these barriers and risks attached to investment in longer term training by firms. Further, the current boom does raise the prospect of what would happen if economic growth is unexpectedly cut short and large numbers of apprentices taken on by private employers are made unemployed. Will Group Training have the resources to act as a traditional 'employer of last resort' for unemployed apprentices?

Six, the finding that nearly one in seven firms identified publicity about skill shortages as the single most important factor in their decision to employ an apprentice was surprising, but also valuable. Promotional campaigns directed at firms could emphasise the benefits of training as a strategy to redress skill shortages as an alternative to other approaches such as poaching or increasing wages to attract skilled labour. In addition, improved forecasting of skill shortages could forewarn employers about prospective labour shortfalls and possibly lead them to take action which would forestall such shortages.

Finally, the overall impression from the surveys and from other studies cited in this report is that the great majority of firms are satisfied with the overall VET system. Employers are seeking refinements to the apprenticeship and training system not large-scale restructuring.

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Appendix 1 Methodology

Data for the project was derived from four sources:

1.1 NCVER data

Descriptive data on trends in 'traditional apprenticeships' was obtained from the National Centre for Vocational Education Research (NCVER) over the period 1996 to 2004. (Data on this variable from the NCVER is not available for earlier periods.) Traditional apprenticeships are defined as persons employed in a Trade and Related occupation (ASCO Major Group 4) with an expected duration of training of more than 2 years and undertaking a qualification at the Australian Qualification Framework III level or above. All NCVER data used in this report is based on March quarter 2005 estimates.

1.2 Employer Mail Survey

The purpose of the employer mail survey was to identify the motivation for firms engaging apprentices in 2004; determine the hiring intentions of the employers with respect to additional apprentices in the next 12 months; identify what factors would encourage employers to engage additional apprentices and determine what changes they would like to see to the apprenticeship system. (The survey instrument is attached as Appendix 3.)

A mail survey was undertaken of 1500 employers in NSW that had taken on apprentices in 2004. Only employers with a direct employment relation with their apprentices were included. Group Training Organisations were excluded on the basis that as a labour market intermediary their annual apprentice intake is largely a response to employment decisions made by their host employers. (The level of Group Training can be conceived as primarily the result of 'derived demand' from firms.) However, given the importance of Group Training in the apprentice labour market they were the subject of a separate survey instrument.

The sample of employers was derived from the NSW Department of Education and Training database of contracts of training. (Other states were approached to participate in the study but could not supply the data within the time-frame for the research.) Whilst it is the case that the rate of growth of apprentice intake in NSW in 2004 was less than that in Australia as a whole, it is arguable that the results are applicable to other states that experienced a higher rate of increase in intake over the period (Appendix 2 Table 2.1).

A stratified random sample of 15% was drawn from the population of 10,040 employers who had an intake of apprentices in NSW in 2004. The sample of 1500 was stratified by industry (manufacturing, construction, automotive, food, personal services and other) and by firm size (20 or fewer employees and more than 20 employees). Manufacturing, construction, automotive, food and personal services industries were selected as these five industries account for 80.9% of all apprentice intake in 2004, whilst the remaining 12 industries accounted for just under 19%.

The key characteristics of the population of industries and businesses who employed an apprentice in 2004 in NSW are given in Table 1. From this population a stratified random sample of 15% was derived (Table 2). The characteristics of the respondents to the survey are given in Table 3. From the 1500 firms surveyed 703 completed responses were received representing a response rate of 46.9%. Not only was there a high overall response rate but the characteristics of the respondents, in terms of the distribution of businesses by firm size and industry, closely match the survey sample and population (Table 3). For example, 83.5% of all businesses in the sample and population have 20 or fewer employees. Amongst respondents 79.8% of businesses have 20 or fewer employees.

Table 1: Population of NSW Businesses Employing Apprentices in 2004

Industry	Businesses With ≤20 Employees	Businesses With >20 Employees	Total Businesses	Businesses With ≤20 Employees as a Proportion of Total Businesses in Each Industry	Industry as a Proportion of Total Industries Employing Apprentices in 2004
Manufacturing	889	334	1223	72.7%	12.2%
Construction	3682	403	4085	90.1%	40.7%
Automotive	1050	229	1279	82.1%	12.7%
Food	791	323	1114	71.0%	11.1%
Personal Services	1321	40	1361	97.1%	13.6%
Other	648	330	978	66.3%	9.7%
Total	**8381**	**1659**	**10040**	**83.5%**	**100%**

Source: NSW DET IVETS database

Table 2: Survey Sample of NSW Businesses Employing Apprentices in 2004

Industry	Businesses With ≤20 Employees	Businesses With >20 Employees	Total Businesses	Businesses With ≤20 Employees as a Proportion of Total Businesses in Each Industry	Industry as a Proportion of Total Industries Employing Apprentices in 2004
Manufacturing	133	50	183	72.7%	12.2%
Construction	550	60	610	90.1%	40.7%
Automotive	157	34	191	82.1%	12.7%
Food	118	48	166	71.0%	11.1%
Personal Services	197	6	203	97.1%	13.6%
Other	97	49	147	66.3%	9.7%
Total	**1252**	**247**	**1500**	**83.5%**	**100%**

Source: NSW DET IVETS database

Table 3: Characteristics of Mail Survey Respondents

Industry	Businesses With ≤20 Employees	Businesses With >20 Employees	Total Businesses	Businesses With ≤20 Employees as a Proportion of Total Businesses in Each Industry	Industry as a Proportion of Total Industries Employing Apprentices in 2004
Manufacturing	62	32	94	66.0%	13.4%
Construction	253	37	290	87.2%	41.3%
Automotive	68	21	89	76.4%	12.7%
Food	43	23	66	65.2%	9.4%
Personal Services	84	2	86	97.7%	12.2%
Other	51	27	78	65.4%	11.1%
Total	**561**	**142**	**703**	**79.8%**	**100%**

Source: Mail Survey of NSW Employers 2005

The use of a mail survey for the collection of data from employers, as opposed to other survey modes, such as telephone or email, was necessitated by confidentiality requirements on the part of NSW DET as the Department could not supply employer contact details directly to the researchers. The survey instrument was mailed by the Department and respondents returned the completed instrument via an enclosed return paid envelope addressed to the researchers. The mail survey was posted during 15-17 June 2005 with a follow-up survey mailed two weeks later to all employers who had not responded by the 5th July 2005. The survey data comprises responses received up to and including the 22nd July 2005.

Whilst the Department could not provide employer contact details they did supply a database to the researchers in which each business that employs an apprentice is given a unique identifying number. This database also contains the industry (ANZSIC) coding of the employing business and the number of employees in each business. On each survey instrument a number from 1 to 1500 was printed which was cross-referenced to the employer's unique identifying number on the database. This reduced respondent burden and manual coding of returned surveys since it obviated the need for questions relating to industry and firm size.

1.3 Email Survey of Managers of Group Training Organisations

Group Training Organisations are a key intermediary in the apprentice labour market accounting for close to one in every five apprentices employed in Australia. As an intermediary, however, they stand in a different relation to their apprentices than those employers who have a direct employment relationship with their apprentices. Accordingly, GTOs were the subject of a separate survey instrument which was similar, but not identical to, the Employer Mail Survey (3).

An email survey of Managers of Group Training Organisations in NSW, Queensland and Victoria was conducted that had experienced 'a significant increase in apprentice intake in 2004'. The purpose of the email survey was for Group Training Managers to identify the causes of the growth of apprentice intake amongst their host employers in 2004. Group Training Organisations in these states were contacted by the respective State Managers of Group

Training Australia during June and July 2005 and asked to participate in the survey if the Companies met the survey criteria. Completed responses were received from twelve Group Training Organisations.

1.4 Apprentice Focus Groups

A series of focus groups were conducted with thirty six apprentices in NSW. (The focus group discussion questions are in Appendix 3.) All the apprentices were in the second year of their apprenticeship, that is, they had started their training in 2004. Focus groups were conducted with ten carpentry and seven bricklaying apprentices at Skills West located in Penrith and nineteen electrical apprentices at Electrotechnology Industry Group Training Co. Ltd. located at Rhodes. The focus groups were organised to coincide with the apprentices receiving off the job training at the Group Training Organisations. Both Group Training Organisations are Registered Training Organisations. The majority of apprentices were employees of the Group Training Organisations with the remainder employed by private firms.

The purpose of the focus groups was to identify the factors leading apprentices to choose to do an apprenticeship rather than undertake other employment and study. In particular, to what extent did publicity about apprenticeships and skill shortages prior to 2004 affect their decision-making? Secondly, the focus groups were used to identify those apprentices who had considered university or other study but had opted for an apprenticeship. This was part of the study's broader objective to investigate the extent to which an improvement in the quality of applicants for apprenticeship vacancies was behind the rise in employer intake of apprentices in 2004.

1.5 Coding of Open-Ended Questions

The surveys of employers and Group Training Managers comprised 'closed' multiple choice questions and 'open ended' responses. A coding frame was developed for the latter and to ensure reliability in coding two researchers simultaneously classified responses to the frame. A 98% level of agreement was achieved in coding between the two researchers.

1.6 Reliability of Estimates

All survey data is subject to varying degrees of sampling variability. The difference between estimates obtained from a sample of employers, and the estimates that would have been produced if the information had been obtained from all employers, is called sampling error. One measure of sampling error is given by the standard error, which indicates the degree to which an estimate may vary from the value that would have been obtained from a full enumeration (the 'true' figure). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors. The relative standard error is obtained by expressing the standard error as a percentage of the estimate to which it refers. All estimates in this report with a relative standard error of 25% or greater are marked with an asterisk. Estimates so marked should be treated with caution.

Appendix 2 Tables to Chapters 2-5

Table 2.1 States' Share of Total Commencements

	State Commencements as a Percent of Total Commencements		Change in the Level of Commencements Percent
	1996	2004	1996-2004
NSW	41.9	23.0	38.9
Vic	24.0	26.5	146.8
Qld	16.0	24.3	142.4
SA	3.8	9.7	260.4
WA	11.1	7.9	55.1
Tas	2.5	3.3	93.2
NT	0.9	2.1	64.0
ACT	0.1	3.2	3650.0
Australia	**100**	**100**	**95.5**

Source: NCVER (2005) unpublished data

Table 2.2 Annual Traditional Apprenticeship Commencements 1996-2004. Australia

Occupation	1996	1997	1998	1999	2000	2001	2002	2003	2004
40 Trades& Related- nfd	0	(a)	(a)	(a)	40	90	210	160	190
41 Mechanical & Fabrication	5,450	5,010	5,100	4,550	3,920	4,380	5,150	5,890	7,210
42 Automotive	5,350	5,170	5,780	7,060	6,910	6,300	6,620	7,350	8,990
43 Electrical & Electronics	4,050	4,010	4,490	5,300	4,910	4,710	5,340	6,270	8,480
44 Construction	5,260	6,460	8,830	10,660	9,820	8,180	10,970	13,020	15,870
45 Food	4,340	4,170	4,530	4,950	5,130	5,380	5,380	5,950	6,940
46 Horticulture	850	1,010	1,170	1,600	1,840	1,880	1,790	1,610	1,970
49 Other Trades	4,110	4,230	5,110	5,860	5,710	5,520	5,750	6,370	7,820
Total Trades	**29,410**	**30,060**	**35,010**	**39,980**	**38,280**	**36,440**	**41,210**	**46,620**	**57,470**

Source: NCVER (2005) unpublished data

Table 2.3 Percentage Change in Annual Traditional Apprenticeship Commencements 1997-2004. Australia

Occupation	1997	1998	1999	2000	2001	2002	2003	2004	% Change 1996-2004
40 Trades& Related- nfd					125.0	133.3	-23.8	18.8	
41 Mechanical & Fabrication	-8.1	1.8	-10.8	-13.8	11.7	17.6	14.4	22.4	32.3
42 Automotive	-3.4	11.8	22.1	-2.1	-8.8	5.1	11.0	22.3	68.0
43 Electrical & Electronics	-1.0	12.0	18.0	-7.4	-4.1	13.4	17.4	35.2	109.4
44 Construction	22.8	36.7	20.7	-7.9	-16.7	34.1	18.7	21.9	201.7
45 Food	-3.9	8.6	9.3	3.6	4.9	0.0	10.6	16.6	59.9
46 Horticulture	18.8	15.8	36.8	15.0	2.2	-4.8	-10.1	22.4	131.8
49 Other Trades	2.9	20.8	14.7	-2.6	-3.3	4.2	10.8	22.8	90.3
Total Trades	**2.2**	**16.5**	**14.2**	**-4.3**	**-4.8**	**13.1**	**13.1**	**23.3**	**95.4**

Source: NCVER (2005) unpublished data

Table 2.4 Occupational Composition of Annual Traditional Trades Commencements. 1996-2004

Occupation	1996	1997	1998	1999	2000	2001	2002	2003	2004	Contribution of occupation to increase in commencements 1996-2004
40 Trades& Related- nfd					0.1	0.2	0.5	0.3	0.3	0.7
41 Mechanical & Fabrication	18.5	16.7	14.6	11.4	10.2	12.0	12.5	12.6	12.5	6.3
42 Automotive	18.2	17.2	16.5	17.7	18.1	17.3	16.1	15.8	15.6	13.0
43 Electrical & Electronics	13.8	13.3	12.8	13.3	12.8	12.9	13.0	13.4	14.8	15.8
44 Construction	17.9	21.5	25.2	26.7	25.7	22.4	26.6	27.9	27.6	37.8
45 Food	14.8	13.9	12.9	12.4	13.4	14.8	13.1	12.8	12.1	9.3
46 Horticulture	2.9	3.4	3.3	4.0	4.8	5.2	4.3	3.5	3.4	4.0
49 Other Trades	14.0	14.1	14.6	14.7	14.9	15.1	14.0	13.7	13.6	13.2
Total Trades	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: NCVER (2005) unpublished data

Table 2.5 Age Structure of Traditional Apprenticeship 1996. Percent

1996	≤19	20 to 24	25 to 44	≥45	Total
40 Trades& Related- nfd	na	na	na	Na	na
41 Mechanical and Fabrication	81.1	11.9	6.8	0.2	100
42 Automotive	85.4	11.0	3.4	Na	100
43 Electrical & Electronics	78.0	14.6	7.2	0.2	100
44 Construction	80.8	14.8	4.4	Na	100
45 Food	77.6	17.3	4.8	Na	100
46 Horticulture	80.0	15.3	4.7	Na	100
49 Other Trades	81.3	13.1	5.4	0.2	100
Total Trades	**80.9**	**13.7**	**5.2**	**0.1**	**100**

2004	≤19	20 to 24	25 to 44	≥45	Total
40 Trades& Related- nfd	10.5	5.3	57.9	26.3	100
41 Mechanical and Fabrication	65.6	15.4	16.4	2.8	100
42 Automotive	79.3	13.9	6.3	0.3	100
43 Electrical & Electronics	66.0	19.3	14.0	0.7	100
44 Construction	74.4	16.3	9.1	0.3	100
45 Food	69.6	20.3	9.5	0.7	100
46 Horticulture	54.8	20.8	19.8	4.6	100
49 Other Trades	77.5	13.7	8.2	0.8	100
Total Trades	**71.8**	**16.5**	**10.8**	**1.0**	**100**

Source: NCVER (2005) unpublished data

Table 2.6 Traditional Apprenticeship Commencements X Sector. Percent

1996	Government	Private Sector	Group Training	Total
40 Trades& Related- nfd	Na	na	Na	na
41 Mechanical and Fabrication	4.0	81.1	15.0	100
42 Automotive	2.1	85.8	12.1	100
43 Electrical & Electronics	7.9	74.3	17.8	100
44 Construction	3.2	76.2	20.5	100
45 Food	0.7	80.6	18.4	100
46 Horticulture	9.4	74.1	16.5	100
49 Other Trades	0.5	96.1	3.2	100
Total Trades	**3.2**	**82.0**	**14.8**	**100**

2004	Government	Private Sector	Group Training	Total
40 Trades& Related- nfd	0.0	100.0	Na	100
41 Mechanical and Fabrication	4.0	77.4	18.7	100
42 Automotive	2.6	75.6	21.8	100
43 Electrical & Electronics	12.9	67.2	19.9	100
44 Construction	1.1	74.5	24.3	100
45 Food	0.4	85.4	14.0	100
46 Horticulture	8.6	76.6	14.2	100
49 Other Trades	0.1	94.8	5.1	100
Total Trades	**3.5**	**78.2**	**18.3**	**100**

Source: NCVER (2005) unpublished data

Table 2.7 Traditional Apprentices In-Training

Occupation	1996	2004	Change 1996-2004 Percent	Contribution of occupation to increase in commencements 1996-2004 Percent
40 Trades& Related- nfd	20	440	2100.0	1.4
41 Mechanical & Fabrication	18,560	17,230	-7.4	-4.6
42 Automotive	18,940	21,750	14.8	9.6
43 Electrical & Electronics	13,630	19,780	45.1	21.1
44 Construction	20,670	35,930	76.8	52.3
45 Food	12,210	14,640	19.9	8.3
46 Horticulture	3,510	3,790	8.0	1.0
49 Other Trades	14,920	18,110	21.4	10.9
Total Trades	**102,460**	**131,660**	**28.5**	**100.0**

Source: NCVER (2005) unpublished data

Table 2.8 Training Rates of Apprentices (ASCO 4 Major Group Trades and Related Workers). Australia. 1974-2004

June of each year	Metal	Electrical/Electronic	Construction	Vehicle	Food	**Total**
1974	20.4	13.8	12.8	5.8	7.6	**12.4**
1975	21.1	12.9	13.0	6.0	8.2	**12.7**
1976	22.0	13.4	12.9	6.2	8.2	**13.0**
1977	20.6	11.7	11.1	6.1	7.9	**11.9**
1978	20.8	12.3	11.3	6.4	8.7	**12.4**
1979	21.8	11.9	10.9	6.7	9.3	**12.6**
1980	23.1	11.5	10.7	5.7	8.9	**12.7**
1981	23.9	12.9	10.7	5.1	10.2	**13.0**
1982	25.2	14.1	11.5	5.0	10.2	**13.9**
1983	25.4	13.2	12.1	5.1	10.5	**13.9**
1984	22.7	12.9	10.3	4.7	10.0	**12.7**
1985	20.7	11.7	9.6	4.9	11.2	**12.2**
1986	18.1	10.0	9.3	4.7	12.2	**11.3**
1987	11.0	12.0	9.8	16.0	12.7	**12.3**
1988	11.3	11.2	11.2	17.2	13.8	**12.5**
1989	11.2	12.7	10.5	17.2	12.3	**12.3**
1990	12.9	12.4	12.5	18.8	12.6	**13.3**
1991	13.0	12.8	13.0	17.3	13.8	**13.3**
1992	12.8	12.3	11.7	15.8	12.6	**12.6**
1993	11.1	10.2	9.4	13.7	12.1	**10.8**
1994	9.9	9.9	9.9	13.6	12.2	**10.7**
1995	9.2	8.9	9.9	14.1	12.5	**10.1**
1996	10.4	9.4	9.5	15.3	13.3	**10.7**
1997	10.3	9.3	10.1	15.5	14.2	**10.7**
1998	10.2	9.0	8.9	17.9	13.6	**10.4**
1999	10.0	9.0	9.4	17.8	15.2	**10.7**
2000	8.5	9.2	10.4	18.8	15.1	**10.9**
2001	8.2	9.3	10.4	16.4	14.4	**10.8**
2002	8.2	9.4	11.4	17.5	16.1	**11.3**
2003	8.5	9.1	11.0	18.9	14.3	**11.3**
2004	9.0	12.1*	12.45	19.8	16.5	**12.2**

Source: Toner (2003) for data up to 2001. The large jump in the Electrical training rate in 2004 reflects, in part, volatility in the ABS estimates of total employed in the electrical trades. The estimate for the number of persons employed in this trade was very low in this period. If more recent data is used the training rate is 10.9%.

Tables to Chapter 3 Mail Survey of NSW Employers

Table 3A

Number of respondents to a = 638 (90.8%); aa = 534 (76.0%)
(Frequencies relate only to those firms who have answered a or aa)

	A	aa
	Number & percentage of firms who answered q.**a**	Number & percentage of firms who answered q.**aa**
Reasons for taking on an apprentice	What were your reasons for taking on an apprentice in 2004? *(Multiple responses permitted)*	What was the single most important reason for taking on an apprentice in 2004? *(Single response only)*
1. Increasing work load meant we had to take on more workers	419 (65.7%)	175 (32.8%)
2. Recruiting tradespeople to become employees was too expensive or difficult so we employed an apprentice(s) instead	261 (40.9%)	85 (15.9%)
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult so we employed an apprentice(s) instead	146 (22.9%)	23 (4.3%)
4. We recently set up the business	74 (11.6%)	15 (2.8%)*
5. Government subsidies made it more affordable for us to employ apprentices	218 (34.2%)	25 (4.7%)
6. The apprenticeship system is more flexible than it used to be	110 (17.2%)	6 (1.1%)*
7. Better quality applicants for our apprenticeship vacancies prompted us to take on more apprentices	61 (9.6%)	12 (2.2%)*
8. An increase in the number of applicants for our apprenticeship vacancies prompted us to take on more apprentices	30 (4.7%)	2 (.4%)*
9. Publicity about trades' shortages prompted us to take on apprentices	118 (18.5%)	29 (5.4%)
10. We had to replace apprentices that left	204 (32.0%)	74 (13.9%)
11. Other reasons. (Please describe)	99 (15.5%)	88 (16.5%)
Total		**534 (100%)**

Source: Mail Survey of NSW Employers 2005

Note: Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3AA.
Number of respondents to 11a= 99 (15.5%). However, of the 99 firms who ticked 11a 91 firms (14.1%) both ticked 11a and provided a description of the 'other reason'.

(Frequencies relate only to those who both ticked q.11a and provided a description of the 'other reason')

Coded responses	Number of firms who answered q.11a and provided a description of the 'other reason' *(Multiple responses permitted)*	Percent of firms who answered q.11a and provided a description of the 'other reason' *(Multiple responses permitted)*
Prefer to train own tradespeople	24	26.4%
Need to train for the industry/sense of social responsibility	17	18.7%
Business has a commitment to a regular training intake	14	15.4%
Lack of quantity of tradespeople in the external labour market	14	15.4%
Lack of quality of tradespeople in the external labour market	8*	8.8%*
Apprentice graduated and gave another person an opportunity	6*	6.6%*
Other	5*	5.5%*
Employed son/family member as an apprentice	5*	5.5%*
Replacing tradespeople who had retired/left	5*	5.5%*
Existing worker in business offered an apprenticeship	5*	5.5%*
Knew the apprentice/recommended by someone they knew	4*	4.4%*

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3AAA

Number of respondents to 11aa= 88 (16.5%). However, of the 88 firms who ticked 11aa once 73 firms (10.4%) both ticked 11aa and identified a 'single most important reason' under the category of 'other reasons'.

(Frequencies relate only to those who both ticked q.11aa and provided a description of their 'single most important reason')

Coded responses	Number of firms who answered q.11aa and provided a description of the 'other reason' *(Single response only)*	Percent of firms who answered q.11aa and provided a description of the 'other reason' *(Single response only)*
Need to train for the industry or sense of social responsibility	16	21.9%
Prefer to train own tradespeople	12*	16.4%*
Business has a commitment to a regular training intake	10*	13.7%*
Other	9*	12.3%*
Lack of quantity of tradespeople in the external labour market	5*	6.8%*
Lack of quality of tradespeople in the external labour market	4*	5.5%*
Employed son/family member as an apprentice	5*	6.8%*
Existing worker in business offered an apprenticeship	5*	6.8%*
Replacing tradespeople who had retired/left	2*	2.7%*
Knew the apprentice or recommended by someone they knew	4*	5.5%*
Apprentice graduated and gave another person an opportunity	1*	1.4%*
Total	**73**	**100%**

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3B

Number of respondents to B1= 689 (98.0%); B2 = 421 (59.9%)
(Frequencies relate only to those who have answered B1 or B2)

B.1) Does your business plan to take on apprentices over the next twelve months?

	Number of Firms Who Answered B1	Percent of Firms Who Answered B1
Yes	226	32.8
Maybe	250	36.3
No	213	30.9
Total	**689**	**100.0**

Source: Mail Survey of NSW Employers 2005

B.2) If, yes or maybe, how many do you plan to take on?

421 employers or 59.9 % of all respondents answered this question.

Table 3BB

Projected Apprentice Intake Those Firms Stating 'Yes' They Would Take on an Apprentice Over the Next 12 Months

Projected Intake*	Number of Firms	Percent of Firms Answering B2	Cumulative Percent
1.00	76	34.9	34.9
1.50	36	16.5	51.4
2.00	55	25.2	76.6
2.50	11	5.0	81.7
3.00	12	5.5	87.2
3.50	1	.5	87.6
4.00	8	3.7	91.3
4.50	2	.9	92.2
5.00	6	2.8	95.0
6.00	1	.5	95.4
7.00	1	.5	95.9
7.50	2	.9	96.8
8.50	1	.5	97.2
9.00	1	.5	97.7
10.00	1	.5	98.2
12.00	1	.5	98.6
15.00	1	.5	99.1
16.00	1	.5	99.5
22.50	1	.5	100
Total	**218**	**100**	

Source: Mail Survey of NSW Employers 2005

* The non-integers are due to some employers expressing their projected intake as a range, eg. 2-3.

Table 3C.

What would encourage your business to take on more apprentices?
Number of respondents to C= 567 (80.7%)
(Frequencies relate only to those who have answered C)

Coded responses	Number of firms who answered C *(Multiple responses permitted)*	Proportion of firms who answered C *(Multiple responses permitted)*
Higher government incentives to employ apprentices	216	38.1%
Higher workload/if the business was bigger	211	37.2%
Higher quality/reliability of applicants	97	17.1%
Other	63	11.1%
Lower costs (workers' comp/statutory charges)	40	7.1%
Improve TAFE	31	5.5%
Reduce paperwork associated with apprenticeships	20	3.5%
Higher government incentives to enable an increase in apprentice wages	14	2.5%
Shortage of tradespersons to supervise apprentices	14*	2.5%*
Reduce apprentice wages	2*	.4%*

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3D.

What changes would you like to see to apprenticeships?
Number of respondents to D = 476 (67.7%)
(Frequencies relate only to those who have answered D)

Coded responses	Number of firms who answered D *(Multiple responses permitted)*	Proportion of firms who answered D *(Multiple responses permitted)*
Higher government incentives for employers	86	18.1%
No change to current system	79	16.6%
Higher wages/higher government incentives directly to go to apprentices	62	13.0%
Other	55	11.6%
TAFE other (flexibility of delivery, scheduling of classes etc)	53	11.1%
More relevant TAFE courses/improved off the job training	50	10.5%
Increased promotion of apprenticeships in schools and increase in pre-apprenticeships	35	7.4%
Higher quality of applicants	30	6.3%
Reduce term of training	29	6.1%
Reduce paperwork associated with apprenticeships	22	4.6%
Redesign of government incentives for employers/apprentices	22	4.6%
Excessive travel times for apprentices to get to TAFE	19	4.0%
Lower costs (workers comp etc)	18	3.8%
Restraint on apprentices leaving during/after training period	16	3.4%
Substitute in part or whole of TAFE training for on the job training	15*	3.2%*
Easier system for dismissal of apprentices	13*	2.7%*
Government incentive payments to apprentices for completion	7*	1.5%*
More resources for TAFE	6*	1.3%*
Reduce apprentice wages	1*	.2%*

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Firm Size

Table 3E

Number of respondents to a = 638 (90.8%); aa = 534 (76.0%)

507 firms with 20 or less employees answered question 'a' or 79 % of all firms that answered question 'a'. 131 firms with more than 20 employees answered question 'a' or 21 % of all firms that answered question 'a'.

'aa' = 534 (76%); 426 firms with 20 or less employees answered question 'aa' or 80% of all firms that answered question 'aa'. 108 firms with more than 20 employees answered question 'aa' or 20% of all firms that answered question 'aa'.

	a		aa	
	Percentage of firms who answered q.**a**		Percentage of firms who answered q.**aa**	
Reasons for taking on an apprentice	What were your reasons for taking on an apprentice in 2004? *(Multiple responses permitted)*		What was the single most important reason for taking on an apprentice in 2004? *(Single response only)*	
	≤20	>20	≤20	>20
1. Increasing work load meant we had to take on more workers	68.8	53.4	35.4	22.2
2. Recruiting tradespeople to become employees was too expensive or difficult so we employed an apprentice(s) instead	41.8	37.4	15.7	16.7
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult so we employed an apprentice(s) instead	24.9	15.3	5.2	.9*
4. We recently set up the business	13.8	3.1*	3.3*	.9*
5. Government subsidies made it more affordable for us to employ apprentices	33.9	35.1	4.2	6.5*
6. The apprenticeship system is more flexible than it used to be	17.9	14.5	1.2*	.9*
7. Better quality applicants for our apprenticeship vacancies prompted us to take on more apprentices	9.9	8.4*	1.9*	3.7*
8. An increase in the number of applicants for our apprenticeship vacancies prompted us to take on more apprentices	5.1	3.1*	.5*	0*
9. Publicity about trades' shortages prompted us to take on apprentices	15.2	31.3	4.7	8.3*
10. We had to replace apprentices that left	29.6	41.2	12.7	18.5
11. Other reasons. (Please describe)	14.2	20.6	15.3	21.3
Total			**100**	**100**

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3F

Number of respondents to B1= 689 (98.0%); B2 = 421 (59.9%)
(Frequencies relate only to those who have answered B1 or B2)

B.1) Does your business plan to take on apprentices over the next twelve months?

	Number of Firms Who Answered B1		Percent of firms who answered B1	
	≤20	>20	≤20	>20
Yes	139	87	25.3	62.1
Maybe	212	38	38.6	27.1
No	198	15	36.1	10.7
Total	**549**	**140**	**100**	**100**

Source: Mail Survey of NSW Employers 2005

B.2) If, yes or maybe, how many do you plan to take on?

Table 3G.

What would encourage your business to take on more apprentices?
Number of respondents to C= 567 (80.7%)
454 small firms (80.9% of all small firms) and 113 large firms (79.5% of all large firms) answered C.
(Frequencies relate only to those who have answered C)

Coded responses	Number of firms who answered C *(Multiple responses permitted)*		Proportion of firms who answered C *(Multiple responses permitted)*	
	≤20	›20	≤20	›20
Higher government incentives to employ apprentices	167	49	36.8%	43.4%
Higher workload for the business/if the business was bigger	176	35	38.8%	31.0%
Higher quality/reliability of applicants	74	23	16.3%	20.4%
Other	52	11*	11.5%	9.7%*
Lower costs (workers' comp/statutory charges)	34	6*	7.5%	5.3%*
Improve TAFE	19	12*	4.2%	10.6%*
Reduce paperwork associated with apprenticeships	19	1*	4.2%	.9*
Higher government incentives to enable an increase in apprentice wages	9*	5*	2.0%*	4.4%*
Shortage of apprentices to supervise apprentices	9*	5*	2.0%*	4.4%*
Reduce apprentice wages	2*	0*	.4*	0%*

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with cautio

Table 3H.

What changes would you like to see to apprenticeships?
Number of respondents to D = 476 (67.7%)
376 small firms (67.0% of all small firms) and 100 large firms (70.4% of all large firms) answered D.
(Frequencies relate only to those who have answered D)

	Number of firms who answered D *(Multiple responses permitted)*		Proportion of firms who answered D *(Multiple responses permitted)*	
Coded responses	≤20	>20	≤20	>20
Higher government incentives for employers	72	14	19.1%	14.0%
No change to current system	60	19	16.0%	19.0%
Higher wages/higher government incentives directly to go to apprentices	49	13*	13.0%	13.0%*
Other	40	15	10.6%	15.0%
TAFE other (flexibility of delivery, scheduling of classes etc)	42	11*	11.2%	11.0%*
More relevant TAFE courses/improved off the job training	37	13*	9.8%	13.0%*
Increased promotion of apprenticeships in schools and increase in pre-apprenticeships	25	10*	6.6%	10.0%*
Higher quality of applicants	25	5*	6.6%	5.0%*
Reduce term of training	19	10*	5.1%	10.0%*
Reduce paperwork associated with apprenticeships	16	6*	4.3%	6.0%*
Redesign of government incentives for employers/apprentices	21	1*	5.6%	1.0%*
Excessive travel times for apprentices to get to TAFE	14*	5*	3.7%*	5.0%*
Lower costs (workers comp etc)	17	1*	4.5%	1.0%*
Restraint on apprentices leaving during/after training period	15*	1*	4.0%*	1.0%*
Substitute in part or whole of TAFE training for on the job training	14*	1*	3.7%*	1.0%*
Easier system for dismissal of apprentices	10*	3*	2.7%*	3.0%*
Government incentive payments to apprentices for completion	5*	2*	1.3%*	2.0%*
More resources for TAFE	4*	2*	1.1%*	2.0%*
Reduce apprentice wages	1*	0*	.3%*	0%*

Source: Mail Survey of NSW Employers 2005

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Industry Variable

Table 3I

Number of respondents to a = 638 (90.8%); aa = 534 (76.0%)
(Frequencies relate only to those firms who have answered a or aa)

Table: Number of Firms X Industry Answering 'a' and 'aa'

	'a'	'aa'
Manufacturing	88	69
Construction	267	231
Automotive	76	55
Food	61	53
Personal Services	80	69
Other	66	57
Total	**638**	**534**

Table 3J

Reasons for taking on an apprentice in 2004

	Number & percentage of firms who answered q.**a**						Number & percentage of firms who answered q.**aa**					
Reasons for taking on an apprentice	What were your reasons for taking on an apprentice in 2004? *(Multiple responses permitted)*						What was the single most important reason for taking on an apprentice in 2004? *(Single response only)*					
	Manf.	Const.	Auto	Food	PS	Oth	Manf.	Const.	Auto	Food	PS	Oth
1. Increasing work load	53 60.2%	190 71.2%	51 67.1%	33 54.1%	56 70.0%	36 54.5%	24 34.8%	93 40.3%	12* 21.8%	11* 20.8%	27 39.1%	8* 14.0%
2. Recruiting tradespeople to become employees was too expensive or difficult	42 47.7%	109 40.8%	36 47.4%	28 45.9%	20 25.0%	26 39.4%	19 27.5%*	31 13.4%	7* 12.7%	13 24.5%	5* 7.2%	10* 17.5%
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult	22 25.0%	82 30.7%	15 19.7%	8* 13.1%	4* 5.0%	15 22.7%	0* 0%	17 7.4%	3* 5.5%	0* 0%	0* 0%	3* 5.3%
4. Recently set up the business	5* 5.7%	28 10.5%	10* 13.2%	11* 18.0%	13* 16.3%	7* 10.6%	0* 0%	3* 1.3%	1* 1.8%	1* 1.9%	7* 10.1%	3* 5.3%
5. Govt. subsidies	24 24.3%	82 30.7%	26 34.2%	29 47.5%	33 41.3%	24 36.4%	3* 4.3%	7* 3.0%	3* 5.5%	3* 5.7%	4* 5.8%	5* 8.8%
6. Apprent. system is more flexible	15 17.0%	47 17.6%	10* 13.2%	15 24.6%	12* 15.0%	11* 16.7%	1* 1.4%	3* 1.3%	0* 0%	1* 1.9%	0* 0%	1* 1.8%
7. Better quality applicants	4* 4.5%	30 11.2%	9* 11.8%	6* 9.8%	8* 10.0%	4* 6.1%	1* 1.4%	10* 4.3%	1* 1.8%	0* 0%	0* 0%	0* 0%
8. Increase in number of applicants	1* 1.1%	12* 4.5%	4* 5.3%	3* 4.9%	7* 8.8%	3* 4.5%	0* 0%	1* .4%	0* 0%	0* 0%	1* 1.4%	0* 0%
9. Publicity about trades' shortages	18 20.5%	43 16.1%	15 19.7%	12* 19.7%	10* 12.5%	20 30.3%	3* 4.3%	11* 4.8%	5* 9.1%	3* 5.7%	1* 1.4%	6* 10.5%
10. Replace apprentices that left	30 34.1%	67 25.1%	23 30.3%	36 59.0%	31 38.8%	17 25.8%	8* 11.6%	18 7.8%	9* 16.4%	19 35.8%	16 23.2%	4* 7.0%
11. Other reasons	19 21.6%	40 15.0%	15 19.7%	2* 3.3%	11* 13.8%	12* 18.2%	10* 14.5%	37 16.0%	14* 25.5%	2* 3.8%	8* 11.6%	17 29.8%
Total							**69** **100%**	**231** **100%**	**55** **100%**	**53** **100%**	**69** **100%**	**57** **100%**

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3K

Number of respondents to B1= 689 (98.0%); B2 = 421 (59.9%)
(Frequencies relate only to those who have answered B1 or B2)

B.1) Does your business plan to take on apprentices over the next twelve months?

	Number of Firms Who Answered B1						Percent of firms who answered B1					
	Manf	Const	Auto	Food	PS	Oth	Manf	Const.	Auto	Food	PS	Oth
Yes	37	74	30	30	34	21	39.8%	25.9%	34.9%	47.5%	40.0%	27.6%
Maybe	34	101	32	25	30	28	36.6%	35.3%	37.2%	39.7%	35.3%	36.8%
No	22	111	24	8	21	27	27.7%	38.8%	27.9%	12.7%	24.7%	35.5%
Total	**93**	**286**	**86**	**63**	**85**	**76**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Mail Survey of NSW Employers 2005

Table 3L

What would encourage your business to take on more apprentices?
Number of respondents to C= 567 (80.7%)
(Frequencies relate only to those who have answered C)

Coded responses	Number and proportion of firms who answered C *(Multiple responses permitted)*					
	Manf	Const	Auto	Food	PS	Oth
Higher govt. incentives to employ apprentices	23 30.7%	101 43.3%	22 31.0%	16 29.6%	28 40.6%	26 40.0%
Higher workload/if the business was bigger	34 45.3%	84 36.1%	28 39.4%	17 31.5%	27 39.1%	21 32.3%
Higher quality/ reliability of applicants	20 26.7%	28 12.0%	13* 18.3%	13 24.1%	11* 15.9%	12* 18.5%
Other	6* 8.0%	20 8.6%	9* 12.7%	10* 18.5%	10* 14.5%	8* 12.3%
Lower costs (workers' comp. statutory charges)	2* 2.7%	24 10.3%	2* 2.8%	2* 3.7%	2* 2.9%	8* 12.3%
Improve TAFE	2* 2.7%	16 6.9%	1* 1.4%	5* 9.3%	1* 1.4%	6* 9.2%
Reduce paperwork associated with apprenticeships	2* 2.7%	11* 4.7%	1* 1.4%	1* 1.9%	5* 7.2%	0* 0%
Higher govt. incentives to enable an increase in apprentice wages	1* 1.3%	6* 2.6%	3* 4.2%	1* 1.9%	2* 2.9%	1* 1.5%
Reduce apprentice wages	0* 0%	1* .4%	0* 0%	0* 0%	1* 1.4%	0* 0%

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Table 3M

What changes would you like to see to apprenticeships? Number of respondents to D = 476 (67.7%)

Coded responses	Number and proportion of firms who answered C *(Multiple responses permitted)*					
Coded responses	Manf	Const	Auto	Food	PS	Oth
Higher government incentives for employers	8* 12.9%	49 25.0%	8* 14.0%	3* 6.8%	10* 14.7%	8* 16.3%
No change to current system	11* 17.7%	31 15.8%	9* 15.8%	7* 15.9%	12* 17.6%	9* 18.4%
Higher wages/higher government incentives directly to go to apprentices	5* 8.1%	28 14.3%	11* 19.3%	5* 11.4%	8* 11.8%	5* 10.2%
Other	9* 14.5%	22 11.2%	7* 12.3%	9* 20.5%	5* 7.4%	3* 6.1%
TAFE other (flexibility of delivery, scheduling of classes etc)	5* 8.1%	21 10.7%	7* 12.3%	6* 13.6%	7* 10.3%	7* 14.3%
More relevant TAFE courses/improved off the job training	9* 14.5%	16 8.2%	5* 8.8%	3* 6.8%	8* 11.8%	9* 18.4%
Increased promotion of apprenticeships in schools and increase in pre-apprenticeships	8* 12.9%	13* 6.6%	6* 10.5%	1* 2.3%	3* 4.4%	4* 8.2%
Higher quality of applicants	2* 3.2%	12* 6.1%	5* 8.8%	5* 11.4%	3* 4.4%	3* 6.1%
Reduce term of training	4* 6.5%	4* 2.0%	4* 7.0%	3* 6.8%	13 19.1%	1* 2.0%
Reduce paperwork associated with apprenticeships	3* 4.8%	10* 5.1%	2* 3.5%	2* 4.5%	0* 0%	5* 10.2%
Redesign of government incentives for employers/apprentices	4* 6.5%	7* 3.6%	3* 5.3%	3* 6.8%	4* 5.9%	2* 2.0%
Excessive travel times for apprentices to get to TAFE	3* 4.8%	8* 4.1%	3* 5.3%	0* 0%	3* 4.4%	2* 4.1%
Lower costs (workers comp etc)	0* 0%	13* 6.6%	0* 0%	1* 2.3%	1* 1.5%	3* 6.1%
Restraint on apprentices leaving during/after training period	3* 4.8%	6* 3.1%	1* 1.8%	2* 4.5%	2* 2.9%	2* 4.1%
Substitute in part or whole of TAFE training for on the job training	2* 3.2%	3* 1.5%	1* 1.8%	2* 4.5%	5* 7.4%	2* 4.1%
Easier system for dismissal of apprentices	0* 0%	5* 2.6%	1* 1.8%	2* 4.5%	3* 4.4%	2* 4.1%
Government incentive payments to apprentices for completion	0* 0%	5* 2.6%	0* 0%	1* 2.3%	1* 1.5%	0* 0%
More resources for TAFE	0* 0%	2* 1.0%	1* 1.8%	2* 4.5%	0* 0%	1* 2%
Reduce apprentice wages	0* 0%	1* .5%	0* 0%	0* 0%	0* 0%	0* 0%
Total	**62**	**196**	**57**	**44**	**68**	**49**

Source: Mail Survey of NSW Employers 2005

Numbers with an asterisk have a relative standard error of 25% or higher and should be treated with caution

Tables to Chapter 4. Email Survey of Group Training Managers

The sample consists of 12 General Training Organisations (GTOs) that in 2004 had a significant rise in the intake of apprentices.

Number of respondents to 'a' = 12. Number of respondents to 'aa' = 8.

Table 4A

What reasons were important in explaining this rise in host employer apprentice intake in 2004?

	a	**aa1**
	Number & percentage of firms who answered q.**a**	Number & percentage of firms who answered q.**aa**
Reasons for Rise in Host Employer Apprentice Intake in 2004	What do you think were the reasons for the rise in host employer apprentice intake in 2004? *(Multiple responses permitted)*	From the reasons you identified what do you think was the *single* most important reason?
1. Increasing work load meant host employers had to take on more workers	11 (91.7%)	7 (77.8%)
2. Recruiting tradespeople to become direct employees was too expensive or difficult so host employers took on a GTO apprentice(s) instead	6 (50.0%)	0 (0%)
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult so host employers employed a GTO apprentice(s) instead	3 (25.0%)	0 (0%)
4. A large number of host employers recently set up their businesses and took on a GTO apprentice(s)	2 (16.7%)	0 (0%)
5. The apprenticeship system is more flexible than it used to be and this made it more attractive for host employers to take on an apprentice	3 (25.0%)	0 (0%)
6. Better quality applicants prompted host employers to take on more apprentices	3 (25.0%)	0 (0%)
7. An increase in the number of applicants prompted host employers to take on more apprentices	0 (0%)	0 (0%)
8. Publicity about trades' shortages prompted host employers to take on apprentices	5 (41.7%)	1 (11.1%)
9. Host employers had to replace apprentices that had left	4 (33.3%)	0 (0%)
10. Other reasons? (Please describe).	3 (25.0%)	1 (11.1%)

Source: Survey of Group Training Organisations, 2005

1one GTO did not choose any option and two GTOs chose more than one option. These were excluded from this table.

Section A cont.

Table 4B

Other reasons that may explain the rise in apprentice intake amongst your host employers in 2004?

Labour was not available either as skilled or semi skilled
The general pool of applicants is too shallow (due to low unemployment rates) and what some hosts are tending to do is 'suck and see' whether apprentices measure up. This can only be done over a three or four month period. Two benefits to host – they can dump them back on the group trainer if they don't work out or they can use them as cheap labour, particularly in the first two years.
Not enough tradesperson. Most host employers request 3rd and 4th year. Last resort take on a first year.
An apprentice is able to be easily returned if there is a downturn in work or if the candidate turns out to be unsuitable. Despite 'unfair dismissal' NOT applying to apprentices, many employers are fearful of it and prefer the employment contract to be distanced from them.
Wage subsidies (eg Job seekers) and other non C'Wealth incentives made it financially sound to take on an apprentice

Source: Survey of Group Training Organisations, 2005

Section B

Table 4C:

Type of strategies implemented by GTOs to increase the number of apprentices they employ

Our competitor, has spent $700,000 p.a. for past 2 years and has increased their number exponentially to 2000 apprentices. This will influence the States numbers for GTOs.
We employed a dedicated Marketing and Promotions Officer.
Introduction of a specific sales team. Increased general and target by specific marketing program. Specific targeting of applicants via schools pre voc courses.
Employment of schools liaison officer, increased advertising
We took on two projects that were deliberately aimed at increasing numbers: 1.A DEST TIP project to employ 150 apprentices over three years in the Electrotechnology, metals and engineering trades. Thus far we are over achieving by already having just under 50 apprentices on in six months; 2. DEWR STEP Indigenous program to employ 12 Indigenous apprentices by Sept. Half this number has been achieved; and 3. A general ramp up of effort to attain more apprentices.
Have been working with schools very closely to promote our industries. Electrical, telecommunications and IT. Have conducted breakfast sessions and industry bus trips for school teachers. We on average receive 114 applications for apprenticeships per month.
The MARS strategy (Macarthur Apprenticeship Recruitment Strategy) with AIG and TAFE was a deliberate initiative to attract applicants to a skill shortage area. It has proved enormously successful and has built a platform for 2005 in the metals and engineering industry. It provides an excellent in to good applicants in schools and has built strong relationships with employers in the industry and the training provider has been encouraged to be flexible and accommodating.
Rebuilt our business model to make it more transparent to host employers. Working with schools to attract more suitable candidates. Introducing new technology and service standards for consistency and to underpin our quality. Implementing continuous improvement strategies. Participating in the skills shortage debate in our region.
Improved relationships with Schools and RTOs. RTOs assist in segmenting the market, i.e. identifying employers seeking apprentices, Schools identify potential SBNA candidates, and joint recruiting with RTOs into pre-vocational programs assists with improving completion rates and reverse marketing individuals into apprenticeship employment.
Marketed and promoted group training. Focused on benefits. Targeted specific areas.

Source: Survey of Group Training Organisations, 2005

Section C

Table 4C:

Importance of recent changes in government employers incentives on the increase in GTO intake of apprentices in 2004

Importance	Number of GTOs	Percentage of GTOs
Very important	1	8.3
Important	1	8.3
Marginal importance	4	33.3
Not important	6	50.0

Source: Survey of Group Training Organisations, 2005

Table 4CC:

Recent changes in government employer incentives that were important and how they assisted your GTO to increase its apprentice intake in 2004

Tell me which government incentive has changed? I don't know of any as at 30 Jun 05.
Revised OHS regulations are costing far more than previous years , so the extra incentives helps to maintain a regular workforce.
The changes to government employer incentives is extremely beneficial to our GTO, specifically the completion incentive because we have over 80% of our starters graduate so the nett increase in incentives has provided additional funds to market and employ staff to target additional places.

Source: Survey of Group Training Organisations, 2005

Section D

Table 4D:

Causes in the improvement of suitability of applicants for their apprenticeship vacancies.

What this GTO has done is to be more discerning and selective of applicants. We have introduced a suite of purpose built profiling systems.
Quite the opposite, only thing is that we now have to work much harder to find suitable applicants. We have still to get it through to host employers that they should be lowering their sights. We have to round up more than double the applicants for the same number of positions.
Simply more applicants to short list from.
Apprenticeships are more accepted, thanks to the hard push from G.T.C.s, higher uni. fees, good wages.
(Refer to B) - Improved relationships with Schools and RTOs. RTOs assist in segmenting the market, i.e. identifying employers seeking apprentices, Schools identify potential SBNA candidates, and joint recruiting with RTOs into pre-vocational programs assists with improving completion rates and reverse marketing individuals into apprenticeship employment.

Source: Survey of Group Training Organisations, 2005

Section E

Table 4E:

What you think caused an increase in the ratio of applicants to vacancies

It is a lot more complicated than a simple yes no. It depends upon the time of year, the trade vacancy, what advertising major employers are doing, how the mines are performing etc. It even relates to when University results come out. It is more about items about the boom times in papers, the TV etc that has an impact. When the economy is booming there seems to be a saturation of items that will trigger more applicants. It might also be as a result of changes to the dole and its requirements.
Again, quite the opposite. We have long lists of vacancies across all trades (we are a generalist group trainer concentrating on skill short apprenticeships) in both the city and country.
Government advertising and our program in working with schools.
TV adds by the Federal government. Large push by GTCs in schools. Trades seem to be accepted as a long term employment career with a steady good wage.
Many students have now be made aware of the career prospects and advantages of a career in the trades.
Our ratio has remained at around 4 applicants for each vacancy filled.
Host employer driven – We generally take on apprentice if we have a willing host. Extra government subsidies for using group training which would offset admin fees.

Source: Survey of Group Training Organisations, 2005

Section F

Table 4F:

What reasons would encourage your GTO to take on more apprentices.

GTOs must pay the wages of apprentices that are in between hosted placements. This is a cost that cannot be recouped through increased charge out rates to the client, as it renders the apprentices non competitive in the market vis a vis tradespeople or labourers. There are now no funds paid by government for GTO services. The GTO is paid the same commencement grants etc as any other employer. Hence a fee per apprentice under management to cover the cost of the mandatory site visits every 12 weeks, and wages paid whilst on "down time".
An increase in the number of suitable, motivated applicants.
Additional support of both state and federal governments to help share the risk. Currently there is no support to help in this area i.e. when there is a down turn in industry there is no contingencies to support a GTO. Remove a lot of the hoop jumping and ridiculous compliance requirements. Both governments to come out and actively support GTO as a major plank in their employment strategies. Both state and federal governments need to recognise that GTOs are different from the normal employer and therefore be treated different.
Higher demand from host employers.
STE is on a drive to increase numbers now – we want 50% growth in FY 05-06.
More host employers, and a positive economic outlook past 4 years.
More host trainers.
More government incentives for both apprentices and GTOs who commit to the term of the apprenticeship.
Better access to school students who are often basing their career choices on outdated employment information from well meaning parents and school advisors. However, this type of work is resource intensive for a GTO, and ideally would come with some funding to assist that work. Otherwise, desirable as it is, there is a real limited to what can be done in this area.
Absolutely, whilst ever there are quality host employers to provide placements for them.
Offer greater incentives for employers to use G.T.

Source: Survey of Group Training Organisations, 2005

Section H

Table G:

What changes would you like to see to apprenticeships?

Competency based, time irrelevant. Apprentice wage levels renegotiated to lift above the poverty line i.e. $230.00 per week. Ist year apprentice.
I believe apprentice wages need to be subsidised by governments in the first and second levels, to encourage a better calibre of applicants to the trades.
Remove a lot of the powers of the RTO and place it back with either the employer or the state government body. Introduce a national system for both the training and the state based and controlled apprenticeship system. Give recognition to apprenticeships they deserve place completed apprenticeships at level 4 and 5.
The TAFE problem must be fixed. It is an absolute deterrent to the employment of apprentices when you cannot book a first year into TAFE until they have almost completed second year.
1. Apprenticeships must be differentiated from traineeships – some of these traineeships are just 'dumbed down' courses to keep people off the streets for a year and it irks me as a genuine employer of trade craftsmen. 2. Agreement between state/federal about length of apprenticeships – industry is screaming for the skill short areas. Make them three years in line with TAFE courses – if there is another 'qualification' that is industry specific (or even time served to allow for experience) hand that back to the head industry body. 3. Allow the term 'competency based' to have real meaning: we have been toying with it up until now. Either through a desire by industries to have cheap labour or a disconnect between TAFE policy makers and the inspectors on the ground, it hardly takes place in NSW.
Cut out NAC's.
Make apprentices more accountable for their results.
Tax free income for apprentices. Incentive for the GTO to commence an apprentice and also a completion incentive to GTOs.
The removal of time serving i.e. completed TAFE/ training and assessed as competent in the field, early graduation should be an automatic entitlement whatever the period of time served. An examination of wages for apprentices (you try renting on a 1st year apprentice wage) or additional government assistance with travel etc.
Higher wages for apprentices. Shorter qualification period in some industries but not all. Intermediate qualification for industries that are becoming disaggregated (eg specialist stair manufacturers, or fit out carpenters) Tailoring appropriate qualifications to actual industry practice. Perhaps full trade qual should be at Cert IV in three/four years and intermediate qual should be Cert III in two/three years. National approach to comparability between other VET qualification requirements.
Penalties for Public TAFE RTOs who do not comply with the 3 month commencement rule – i.e. do not commence training within 3 months of start date. The penalty should be equivalent to the amount of incentives that the employer loses as a result. More flexibility with Public TAFEs in the delivery of training and assessment.

Source: Survey of Group Training Organisations, 2005

Construction Industry Focus Groups

First focus group – 2nd year carpentry apprentices

There were ten 2nd year carpentry apprentices in the focus group. The most predominant age was 18 (four apprentices) followed by 17 (three apprentices). The eldest present was 20 years old. Six of the apprentices were from the Mountains (i.e. further west than Penrith) with three identifying that they were from the Penrith region.

All of the apprentices participating in the focus group had come to the scheme directly from school. Five finished yr12, four left school voluntarily to start an apprenticeship and one was kicked out. None had had a previous full-time work history prior to starting the apprenticeship.

All focus group participants were direct employees of tradespeople. They attend Skills West to complete the training component of their qualifications.

Students generally expressed the idea that an apprenticeship was a more worthwhile approach to work than just getting any old job. As one apprentice said 'it's more worthwhile. You do four years and it gets you somewhere rather than just working for four years for money. Even if not for a career at least it is something you can fall back on'. Others shared similar sentiments citing the qualification as something they can fall back on if something does go wrong. One suggested it was a good thing to be doing until he worked out what to do. There was general non verbal agreement to the sentiment that the apprenticeship 'led' somewhere and that it was preferable to other jobs and careers.

In terms of the publicity about apprenticeships three or four indicated that they were aware of publicity surrounding apprenticeships and skill shortages at the time of their decision to do an apprenticeship. One raised that while he may have heard about apprenticeships 2 years ago in publicity he only really identified them more recently, as now they seem more relevant to him. One raised the issue that he became aware of skill shortages in various trade related industries because 'a lot of the oldies are leaving the industry and so there is more work around and so it is easier to find a job'. Most of focus group indicated that they generally were considering apprenticeships as possible career options whilst at school. A few indicated that they didn't hear in the publicity that tradesman earn good money, however, a few others knew that they made pretty good money. Four or five indicated that money was an important factor in their decision to become apprentices.

When questioned further about other career options most expressed a strong leaning towards a trade. Most wanted some assurance and security and to develop skills. Most agreed that learning a trade was preferable to other forms of employment. One stated that he 'had always wanted to be a carpenter'. The general sentiment when full-time study was discussed was that they didn't want to sit in a classroom all week. Another suggested that he could have gone to tech full-time but then he wouldn't have been able to earn as much as he does as an apprentice. He wouldn't be able to make the same sort of money if he only did part-time work.

None indicated that they considered full-time study as a real option. The reasons were more in terms of learning something practical and earning rather than being put of by fees or anything.

Second focus group – 2nd year bricklayer apprentices

There were seven 2nd year carpentry apprentices in the focus group. The youngest in the group was 18, followed by two 19 and 20 year olds and one 21 year old. The eldest present was 23 years old. Three of the apprentices were from the Mountains (i.e. further west than Penrith) with three identifying that they were from the Penrith region and one from Canterbury.

Three of them has completed year 12 HSC and 4 had not.

Of the group 5 were employed by outside tradespeople while Skills West employed two of them.

When asked whether they had become apprentices directly from school most (5) indicated that they had while two indicated they had come to apprenticeships through the workforce. The eldest of the group (23 years old) had been in the workforce for 7 years. He was offered the opportunity to do the apprenticeship while he was labouring. He is one of the people employed by Skills West. The other one had been scaffolding for a year and then started the apprenticeship. One of the others who came directly from school said that it was basically through work experience that put the apprenticeships on the radar for him. One had started an electrical apprenticeship but found it too hard. Not so much the maths, rather the stress involved so he switched to a bricklaying apprenticeship.

In discussing why they chose apprenticeships over other career and study options there was general consensus for being outdoors, not being stuck in an office nine to five and being paid to learn. One raised that doing an apprenticeship gave him a degree of independence and purpose - I didn't want to be told what to do, my old man and that. Something to do rather than just making people miserable'. Also some spoke of the portability of a building related trade – '…you can move somewhere else and build as well, there are always houses being built'.

The eldest of the group said that unlike the majority of the others (who joined straight out of school and as such whose incomes increased) he sacrificed a higher income to become an apprentice. He did indicate that it was better than just being a labourer because there is more freedom and eventually he will be running his own business. This sentiment was also agreed to non-verbally by most of the focus group.

Approximately half the group identified that they did notice publicity about apprenticeships around when they made the decision to start. They saw ads on TV and in the papers. One mentioned that Group Training Organisations also did presentations at schools and ran some ads. The publicity at the time raised awareness that there were more apprenticeships around, that it was something that they could do and there were lots of jobs.

Almost all were influenced by the money that tradespeople were said to earn. One raised that when a tradesman quotes $15,000 for a job they end up getting most of it, whereas being just a labourer you only get a much smaller share. This then prompted a discussion about too many entrants entering the market and undercutting each other so then no one makes any money. The general agreement was to collude to then ensure that everyone makes enough. This discussion highlighted the concerns they have regarding oversupply of tradespeople.

In discussing other career options major topics related to the trades rather than further study, one of the apprentices suggested that he wanted to be a landscape gardener however after Backyard Blitz came out everyone wanted to be Jamie Drury and so it was impossible to get an apprenticeship. This raises an interesting point in that home renovation, DIY programs, food preparation etc seemed to be very 'flavour' of the month around 2-3 years ago. These programs in effect provide free publicity for the associated trades. One mentioned he had done one year of

his builder's certification concurrently with his bricklaying apprenticeship. He had one year to go and would finish this after he finished his apprenticeship.

5.3 Electrotechnology Industry Focus Groups

Third Focus Group with 2nd Year Electrical Apprentices

The focus group was held with six 2nd year electrical apprentices. They were all 19 and 20 years old. One came from Marrickville, Bankstown, Greenacre and the Blue Mountains. All but 1 had finished their Yr 12 certificate (five). Two had jobs after leaving school and before starting the apprenticeship. One (the person who had not completed his Yr12 certificate) had a number of jobs before starting the apprenticeship.

All were employed through the Group Training Organisation and cited reasons for choosing a GTO rather than an individual employer as better security, more varied jobs and that it was easier to get into. One suggested that a single employer can go bust whereas the GTO will keep going.

Most decided to do an apprenticeship when they were at school. One suggested that at school and at uni there was no one that made you attend. But when you are working you have a responsibility to get to work. One didn't really think about it. It just happened. He came into the GTO and did the entrance exam, was accepted and then started. One had a friend who was in 4th year when he started and so found out about the place that way. Another had a cousin who was at the GTO. A number (3-4) had other family who were tradespeople and so knew about trades this way.

None noticed advertising or promotions about apprenticeships when they decided to start one. It was in the last year that they noticed the promotions. A number suggested they knew of skill shortages in trades and that 'money should increase because people will pay more to get the job done' when there are skill shortages. One suggested that if there is too many of them that this can then affect incomes of everyone.

In relation to the money that tradespeople made one raised that it was dependent on the trades you were in. In the future as an electrician (i.e. licensed) you earn just as much money as anyone who started a good course at uni'. So most agreed that doing a trade was a better option that either working in a factory or studying full-time. One suggested that he would be proud to be an electrician. One agreed with this openly and most other nodded. There was general consensus that even though the money when you are doing an apprenticeship is 'pretty crap' at the end after they are licensed it is good.

Two of the group said they were thinking about uni but they had both studied enough after for their year 12. One suggested that he thought about the fees at uni but this didn't really influence his decision. All suggested that they had had enough of full-time study. One suggested that he started an apprenticeship because of his dad. Basically that if he told his dad that he got a job in a factory that 'he would slap him in the head'.

One said that he put his name down for a couple of TAFE courses but then once he was accepted at the GTO just let them slide. He suggested that getting accepted to an apprenticeship 'was an opportunity that came along once, what was the chance that it would come along again'. Others suggested that 'TAFE was always there. There are 60 year olds at TAFE.' The discussion made it apparent that they felt that apprenticeships were hard to get. This was also a view shared by Jenny the trainer who suggested that a major reason for the spike in numbers was that employers had realised there was a skill shortage and started to take people on.

In terms of taking on further study one suggested that he was considering uni but then had had enough of full-time study. He suggested that he was also thinking that with his trade he could still go onto uni afterwards. When I suggested that electrical engineering might be a possible, he nodded and Jenny the trainer also suggested that other areas are also open. After completing her trade qualification she went on to do an MBA. Another thought about the fees involved but did not cite this as a major reason why they did not go onto further study. One saw his 'sisters doing the uni thing, and though while it paid off at the end (or is beginning to) all the late nights, all the crying and stress just didn't seem worth it'.

Fourth Focus Group with 2nd Year Electrical Apprentices

The focus group was held with 13 2nd year electrical apprentices. The eldest was 23, one 22, three were 21, three were 20, two 19 and three 18. They were dispersed around Sydney ranging from Punchbowl, Nth Ryde, Sutherland Shire, Strathfield and Pennant Hills. All but 1 had finished their Yr 12 certificate (12). Two had jobs after leaving school and before starting the apprenticeship.

11 were employed by the Group Training Organisation with two being employed by individual employers.

Most suggested they preferred being employed by the GTO because of better security i.e. an employer can 'fall over', you get to work in different fields, get your name out there and one suggested he had no contacts and thus it was preferable. Two came to the GTO from previous relationships with an employer.

Most decided that they wanted to do an apprenticeship when they were at school. One decided when he was having his house renovated. The electrician was a friend and he asked if he could follow him around for the day. He did and found that he liked it.

When discussing why they chose an apprenticeship one suggested that when he realised that he couldn't be a doctor or lawyer he thought that doing an apprenticeship was the next best thing. 'A trade was the way to go'. Another suggested that when you're just working (eg labouring) you can lose your job at anytime. 'Better to have a trade. That way you always know you can do something'. One suggested that you can keep it going and move onto other things afterwards. He suggested Electrical Engineering as a possible option. A few of the group suggested that they might move onto other things with their trades. A number also had family who in the trades and this influenced their decision to take up a trade.

In relation to the advertising and publicity one raised that he heard a few ads on the radio and some saw advertising about Group Training Organisations. A few suggested they were aware of skill shortages. While this led to a greater awareness that there would be work for skilled trades people in the future as one participant said 'the skill shortages were not a reason anyone took up an apprenticeship' – i.e. 'you don't hear an ad on the radio and think I will do it to help the country out'. It was more about whether they could make a good income from it. 'Can get in and get the cash'. Most suggested that the reasons they chose trades was the possibility of making a good living, working for yourself, independence, working with your hands and working overseas.

When choosing between an apprenticeship and other forms of employment or study one suggested he thought of the army and another going to university and studying Business. He went on to say that one of the key reasons for choosing an apprenticeship over uni was 'at uni you have four years and no income, whereas with a trade Ok the first two years you have no income but then you start earning'. This was also the respondent that suggested that having a trade can be a stepping stone onto other things (eg Electrical Engineering etc).

Appendix 3 Survey Instruments

Employer Mail Survey

Please complete the survey and return using the enclosed pre-paid envelope.
Please select the reasons your business decided to employ an apprentice(s) in 2004.

Reasons for taking on an apprentice	What were your reasons for taking on an apprentice in 2004? *(You may tick more than one box).*	What was the single most important reason for taking on an apprentice in 2004? *(Tick only one box)*
1. Increasing work load meant we had to take on more workers		
2. Recruiting tradespeople to become employees was too expensive or difficult so we employed an apprentice(s) instead		
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult so we employed an apprentice(s) instead		
4. We recently set up the business		
5. Government subsidies made it more affordable for us to employ apprentices		
6. The apprenticeship system is more flexible than it used to be		
7. Better quality applicants for our apprenticeship vacancies prompted us to take on more apprentices		
8. An increase in the number of applicants for our apprenticeship vacancies prompted us to take on more apprentices		
9. Publicity about trades' shortages prompted us to take on apprentices		
10. We had to replace apprentices that left		
11. Other reasons. (Please describe)		

B.1) Does your business plan to take on apprentices over the next twelve months?
(Please tick answer)

Yes ☐ Maybe ☐ No ☐

B.2) If, yes or maybe, how many do you plan to take on?

C. What would encourage your business to take on more apprentices?
Please describe.

D. What changes would you like to see to apprenticeships?

Questionnaire no. _____
Please place the survey in the pre-paid return envelope and mail it back to us

Thank You

Email Survey of Group Training Managers

A. In 2004 your GTO had a significant rise in the intake of apprentices. The Table below contains a list of reasons that may explain why some of your host employers took on additional apprentices or some host employers took on apprentices for the first time in several years or simply for the first time. Could you please indicate which of the following reasons were important in explaining this rise in host employer apprentice intake in 2004?

Reasons for Rise in Host Employer Apprentice Intake in 2004	What do you think were the reasons for the rise in host employer apprentice intake in 2004? *(Place an X in the boxes below. You may put an X in more than one box).*	From the reasons you identified what do you think was the single most important reason *(Place an X in one box below)*
1. Increasing work load meant host employers had to take on more workers		
2. Recruiting tradespeople to become direct employees was too expensive or difficult so host employers took on a GTO apprentice(s) instead		
3. Hiring subcontractors or labour hire tradespeople was too expensive or difficult so host employers employed a GTO apprentice(s) instead		
4. A large number of host employers recently set up their businesses and took on a GTO apprentice(s)		
5. The apprenticeship system is more flexible than it used to be and this made it more attractive for host employers to take on an apprentice		
6. Better quality applicants prompted host employers to take on more apprentices		
7. An increase in the number of applicants prompted host employers to take on more apprentices		
8. Publicity about trades' shortages prompted host employers to take on apprentices		
9. Host employers had to replace apprentices that had left		
10. Can you think of other reasons that may explain the rise in apprentice intake amongst your host employers in 2004? (Please describe).		

B. Over the last couple of years have you had a deliberate strategy of trying to increase the number of apprentices you employ? (Place an X in the table below)

Yes	No

If Yes, what did you do to try and increase apprentice numbers you employ? (For example, have you increased marketing to employers and prospective apprentices?).

Type answer here. Use as much space as you need.

C. How important were recent changes to government employer incentives to GTOs in explaining the increase in your GTOs intake of more apprentices in 2004? (Place an X in the table below)

Very Important	Important	Marginal Importance	Not Important

C1. If you ticked Very Important or Important, could you please indicate what the recent changes were and how they assisted your GTO to increase its apprentice intake in 2004?

Type answer here. Use as much space as you need.

D. Some GTOs have reported an increase over the last 1 or 2 years in the quality or suitability of applicants for their apprenticeship vacancies. (For example they report higher pass rates for literacy and numeracy tests they set applicants). Has your GTO noticed any improvement in the suitability of applicants for your apprenticeship vacancies? (Place an X in the table below)

Yes	No

If Yes, what do you think caused this improvement?

Type answer here. Use as much space as you need.

E. Some GTOs have reported a significant increase in the ratio of applicants to apprentice vacancies over the last 1 or 2 years. (For example, in earlier years your GTO may have typically had 3 applicants for every vacancy, but over the last 2 years you now get 6 applicants for each vacancy). Has your GTO noticed any increase in this ratio? (Place X in the table below)

Yes	No

If Yes, what do you think caused this increase in the ratio of applicants to vacancies?

Type answer here. Use as much space as you need.

F. What would encourage your GTO to take on even more apprentices? (Please describe)

Type answer here. Use as much space as you need.

H. What changes would you like to see to apprenticeships?

Type answer here. Use as much space as you need.

Focus Group Discussion Topics

1. Who they are - individual characteristics

2. Average ages – oldest, youngest

3. Where they come from (i.e. western Sydney)

4. How many came straight from school?

5. How many came from other employment and or study?

6. How many finished HSC?

7. Why did they choose to do their apprenticeship through a Group Training Company rather than becoming a direct employee (a man with a van i.e. small co)?

8. Did any of them come from a previous relationship with a sole operator?

9. At what point did you decide you wanted to do an apprenticeship (during their school years or when you were working)?

10. What made you decide to do an apprenticeship rather than work or study? (i.e. wanted to start earning, didn't want to work in an office, wanted to be outdoors, working with the family business, work for yourself)

11. Around when you decided to do an apprenticeship did you notice many ads and/or publicity about apprenticeships and skills shortages?

12. Did those ads affect your decision? (You know had you thought about apprenticeships as an option before that?)

13. Did the money tradespeople were making affect your decision (and if that was raised in the ads).

14. When you were thinking about what you were going to do after school did you think about other jobs – like MacDonald's, labouring or retail etc?

15. What about other career options – i.e. going to TAFE full time to do a computer course, diploma or uni?

    Of those that say yes – focus on why they chose an apprenticeship – i.e. fees, or publicity, earning while you're studying, too hard

Appendix 4 Skill Shortage Data

National and State Skill Shortage Lists. Australia – 2004

Engineering Trades	**Construction Trades**	**Electrical & Electronic Trades**
• Metal Fitter	• Carpenter & Joiner	• Electrician
• Metal Machinist	• Fibrous Plasterer	• Refrigeration & Air Conditioning
• Toolmaker	• Bricklayer	• Electrical Powerline
• Metal Fabricator	• Solid Plasterer	• Electronic Instrument
• Welder	• Plumber	• Electronic Equipment
• Sheetmetal Worker	• Cabinetmaker	
Automotive Trades	**Food Trades**	**Other Trades**
• Motor Mechanic	• Chef	• Hairdresser
• Auto Electrician	• Cook	• Furniture Upholsterer
• Panel Beater	• Pastrycook	
• Vehicle Painter		

Source: AustralianJobs@dewr.gov.au

DEWR Index of Trades' Vacancies

Base 100 = November 1997

June	Total Trades	Chefs	Metal	Automotive	Electrical & Electronics	Construction	Food	Printing	Wood & Textile	Hairdressers
1990	78.2	61.9	78.8	102.8	108.1	54.6	77.4	110.2	76.4	55.3
1991	28.5	35.5	24.7	29.6	37.8	14.9	37.5	34.3	29.2	36.4
1992	32.6	36.8	24.7	30.0	36.7	18.1	42.1	67.8	37.5	49.1
1993	49.5	52.5	48.7	54.0	38.2	35.7	58.3	98.9	52.0	56.2
1994	102.8	102.0	110.2	111.7	74.0	102.7	110.9	160.5	125.2	73.0
1995	108.0	106.4	130.8	120.2	127.0	62.9	113.4	161.5	118.6	81.7
1996	89.5	87.1	121.4	102.6	113.7	37.1	94.1	98.9	71.1	89.3
1997	88.9	85.3	97.0	86.9	106.6	71.9	97.3	91.3	82.4	88.6
1998	106.1	167.8	85.6	103.3	106.3	135.9	59.2	96.5	120.4	111.9
1999	121.9	213.1	72.2	122.9	125.0	169.6	59.7	118.8	146.6	126.8
2000	139.4	208.0	81.1	101.2	119.6	242.1	73.1	148.6	180.9	135.5
2001	79.0	195.3	71.0	83.4	70.2	54.1	59.4	71.5	72.6	104.4
2002	112.9	179.8	93.9	114.0	72.4	160.7	70.0	64.4	154.0	110.8
2003	128.3	191.4	131.3	118.9	109.4	174.7	68.3	66.5	148.6	110.7
2004	157.8	236.8	166.3	139.1	150.1	211.0	76.4	88.4	164.7	142.1
2005	144.3	229.8	168.8	119.2	154.4	175.8	73.3	79.3	130.3	110.0

Source: AustralianJobs@dewr.gov.au