



## Older workers in apprenticeships and traineeships

*Tom Karmel*

National Centre for  
Vocational Education Research



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# Foreword

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This report forms part of the National Centre for Vocational Education Research's (NCVER) own research program.

Apprenticeships and traineeships are a distinctive feature of Australia's vocational and education (VET) sector and have undergone major changes over the last ten years. These have been driven by a broadening of institutional settings and the provision of incentive payments by the Australian Government. One of the major developments has been that apprenticeships and traineeships, once restricted to young people, are now available to persons of all ages and to existing workers as well as new entrants to an industry. The range of occupations in which apprenticeships or traineeships are available has also increased dramatically.

*Older workers in apprenticeships and traineeships* focuses on one element of these changes: the age dimension with a special emphasis on older people. It looks at what a typical apprentice or trainee is (in occupational terms) and the apprenticeships or traineeships in which older people play an important part. It also looks at whether the rapid growth in older apprentices and trainees can be explained by the growth in occupations in which apprenticeships and traineeships are offered or whether the growth is more due to older people increasing their share within particular apprenticeships or traineeships.

The report should be of particular interest to those wanting to understand how the nature of apprenticeships and traineeships has changed.

Tom Karmel  
Managing Director

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Other related NCVER reports are:

- ✧ NCVER, *Australian vocational education and training statistics: Apprentices and trainees (various quarters)—Summary*
- ✧ Brooks, L. 2004, *Australian vocational education and training statistics: Trends in 'traditional apprenticeships'*

To find other material of interest, search VOCED (the UNESCO/NCVER international database <<http://www.voced.edu.au>>) using the following keywords: apprentice; apprenticeship; gender; government policy; occupational change; occupational choice; occupational qualification; older people; older worker; trainee; traineeship.

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# Key messages

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This report examines apprenticeships and traineeships with particular reference to the age and sex of apprentices and trainees.

- ✧ The 'typical' older male (45 years and over) apprentice or trainee is undertaking a certificate III qualification, is full-time, and is a transport driver, or intermediate production and transport worker. This is the same for men aged between 25 and 44, but is quite different for younger men, who typically are undertaking an apprenticeship in a traditional trade.
- ✧ The 'typical' older female apprentice or trainee is undertaking a certificate III, is full-time or part-time, and is an intermediate service or clerical worker, or cleaner. This is similar to other female age groups, with the exception of young women undertaking a traditional apprenticeship in hairdressing.
- ✧ The number of apprentices and trainees has increased substantially since the early 1980s, with the majority of growth taking place in 'non-traditional' occupations. The largest percentage increase was for males over the age of 45 years, followed by women aged 45 years and over. The group with the slowest growth is that of young males, but even here the growth was over 50%.

# Executive summary

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This report examines the growth in apprenticeships and traineeships between 1997 and 2003, with a particular focus on older workers. In order to make sense of the data, we split apprentices and trainees into six demographic groups: males aged less than 25; those aged 25 to 44; and those 45 years and over. Females were categorised according to the same age groupings. The gender split is important because of the segmented nature of the labour market. The age split captures aspects of labour market segmentation and also some life cycle aspects. The other element of our approach was to define apprenticeships and traineeships in terms of the occupation (two-digit Australian Standard of Occupations [ASCO]), the qualification level and whether the apprenticeship/traineeship was full-time or part-time.

The analysis indicates a relatively complicated story. The 'typical' apprentice or trainee differs according to gender and age. In 2003, the typical young male apprentice or trainee aged under 25 had commenced a full-time construction apprenticeship at certificate level III; the male between 25 and 44 years had commenced an apprenticeship/traineeship in other intermediate production and transport occupations, which was full-time and at certificate III level; and a male over 45 years had commenced an apprenticeship/traineeship as a road and rail transport driver, again at certificate III level and full-time. The typical young woman aged under 25 had commenced a full-time apprenticeship/traineeship at certificate III level as an intermediate clerical worker and a typical woman between 25 years and 45 years or 45 years and over had commenced a part-time apprenticeship/traineeship at certificate III level as an intermediate service worker.

It is interesting to note that the occupational preferences of the various age groups are strongly related to their full-time or part-time status. Young males are almost all full-time and this is associated with their choice of occupation. Older males also tend to be full-time and this is reflected in both their choice of occupation and their working pattern within the occupation. As expected, the story is quite different for women. They both choose occupations in which part-time work is more common, and more will work part-time within those occupations. The tendency to work part-time is particularly pronounced for older women.

However, it is a mistake to believe that the distribution of apprenticeships and traineeships remains unchanged from earlier patterns. Apart from the obvious expansion of occupations, we have seen growth in part-time apprenticeships and traineeships and some change in the qualification level. Certificate III remains the dominant level, but the lower-level qualifications have become less important, while higher-level qualifications have grown substantially in relative terms, although the numbers are still modest. Part-time apprenticeships and traineeships have become much more common, with commencements increasing from 7000 to around 80 000.

There have been very high growth rates in apprenticeships and traineeships among the older groups, both male and female. We went to some trouble to understand the driving force behind this change by looking at the various proportions of the specified groups within particular apprenticeships and traineeships, as well as focusing on the structural change in types of apprenticeships and traineeships (for example, the different growth in apprenticeships and traineeships across occupations). We found that, within particular apprenticeships and traineeships, changes favoured older males and young females, whereas the structural changes in types of apprenticeships and traineeships available favoured older groups, both male and female.

It goes without saying that the main picture to emerge is one of change. The apprenticeship/traineeship scene today is very different from that of only seven years ago. The range of occupations has widened, part-time apprenticeships and traineeships are now common, and apprenticeships and traineeships are no longer the preserve of the young male. The main point of stability is that certificate III is the dominant qualification level. Apprenticeships and traineeships have become more important for all age groups and for both sexes.

# Older workers in apprenticeships and traineeships

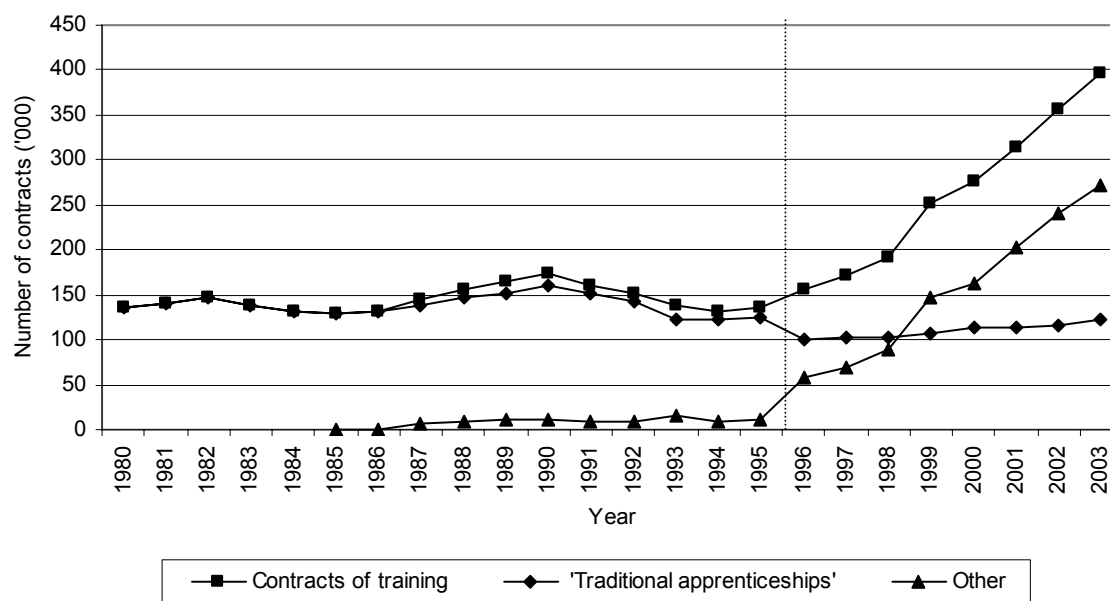
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The apprenticeship and traineeship system is one of the success stories of Australia's vocational education and training (VET) sector in recent years. The number of apprentices and trainees has grown remarkably since 1984. The major driver behind this growth is change to the way an apprentice or trainee is conceptualised. Traditionally, apprenticeships were undertaken by young men (and women who wanted to be hairdressers) who wished to learn a trade. They were associated largely with regulated occupations. This changed in the 1980s when the government became concerned at the number of young people who were unemployed as a result of the 1983 recession. Following a review by the Committee of Inquiry into Labour Market Programs (Kirby 1985), traineeships were introduced. Like apprenticeships, these were targeted at young people and were similar to apprenticeships in terms of being a contract of training with the trainee receiving a training wage. However, they tended to be of shorter duration than apprenticeships. In 1992 the age restriction was lifted, but this had little immediate impact. New Apprenticeships were introduced in 1998, with changes to the existing apprenticeship system including employers being able to choose the training provider. New employer incentives, which for the first time could be accessed by employers in relation to existing workers, were also introduced.

As figure 1 demonstrates, these changes have led to a remarkable increase in the numbers of contracts of training. Most of this growth came from apprenticeships or traineeships of a non-traditional nature.

Associated with this growth was an increase in the number of older apprentices or trainees, and this phenomenon is the subject of this report. The report is in three parts. Firstly, we look at the most recent data in order to describe the characteristics of the typical older apprentices and trainees. We then ask a related question: in which apprenticeships and traineeships do older workers dominate? Finally, we look at the growth in the numbers of older apprentices and trainees since 1997, with the aim of understanding the importance of older people within particular apprenticeships or traineeships.

**Figure 1: Growth in apprentices and trainees in-training at 30 June 1980 to 2003<sup>1</sup>**



Source: Brooks (2004)

## Characteristics of older apprentices and trainees

Before answering this question we must first define what we mean by ‘older’. Consistent with the approach of the Australian Bureau of Statistics (ABS), we use three age categories: less than 25 years; 25 to 44 years; and 45 years and over. For fair comparison of older apprentices and trainees, we consider both the 25 to 44 years group and the 45 years and over group. For completeness, and to allow comparison with their younger counterparts, we also describe those in the less than 25 years group. Because of the very different labour markets in which men and women operate, the analysis is undertaken separately for men and women, resulting in six different demographic groups for this study.

This analysis will look at three important characteristics of apprenticeships and traineeships; namely, occupation (at two-digit Australian Classification of Occupations level), qualification level (AQF I/II, AQF III and AQF IV or diploma), and whether the apprentice or trainee is full-time or part-time.<sup>2</sup> Taken together, these characteristics define the essential nature of the apprenticeship or traineeship.

To provide some context before we begin the analysis by demographic group, table 1 shows commencements in the most important 15 apprenticeships/traineeships in 2003. These represent 53% of all apprenticeships/traineeships. We choose commencements rather than numbers in-training because it represents the cohort of people flowing through the system. The numbers of in-training figures overemphasise the importance of apprenticeships/traineeships of longer duration.

<sup>1</sup> ‘Traditional apprenticeships’ are defined here as those contracts within the trades and related workers occupation group at Australian Qualifications Framework (AQF) level III or above, with more than two years expected duration for full-time, or more than eight years expected duration for a part-time or school-based contracts. The category referred to as ‘other’ apprenticeships and traineeships includes all other contracts which do not meet the criteria for the ‘traditional apprenticeship’ definition above.

<sup>2</sup> While we have chosen occupation as the basis of our analysis, we could have used training packages. The occupational classification is finer because qualifications within training packages are coded to the Australian Standard Classification of Occupations, and some training packages cover a number of qualifications that lead to different occupations. The distribution of the demographic groups across training packages is shown in appendix 2.

**Table 1: The top 15 apprenticeships and traineeships, commencements, 2003**

ASCO	Qual. level	FT/PT	Number
61 Intermediate clerical workers	III	FT	18 760
44 Construction tradespersons	III	FT	14 570
63 Intermediate service workers	III	PT	13 860
79 Other intermediate production and transport workers	III	FT	11 420
62 Intermediate sales and related workers	III	FT	10 340
63 Intermediate service workers	III	FT	9 850
92 Factory labourers	I/II	FT	8 470
42 Automotive tradespersons	III	FT	8 310
62 Intermediate sales and related workers	III	PT	8 230
62 Intermediate sales and related workers	I/II	PT	8 100
49 Other tradespersons and related workers	III	FT	7 860
32 Business and administration associate professionals	IV +	FT	7 690
45 Food tradespersons	III	FT	7 560
73 Road and rail transport drivers	III	FT	7 280
43 Electrical and electronics tradespersons	III	FT	6 780
<b>Top 15 total</b>			<b>149 050</b>

Notes: This table represents 53% of commencements. A complete set of the data is given in appendix 1.

We have used 2-digit ASCO as the basis of the tables. Some of the titles are not particularly helpful. Appendix 3 contains a list of component jobs to aid understanding.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: National Centre for Vocational Education Research (NCVER) Apprentice and Trainee Collection, no. 39, March quarter, 2004

## Demographic breakdown by occupation groups

We now present the 'top 10' for each of the six demographic groups. It is interesting to note that the degree of occupational crowding varies across the six groups. In 2003, women aged 25 to 44 were the most crowded, with 63% in 15 apprenticeships/traineeships. By contrast, men aged 25 to 44 were the least crowded (49%).

**Table 2: The top 10 apprenticeship and traineeships, commencements, 2003, males under 25 years**

ASCO	Qual. level	FT/PT	Number	%
44 Construction tradespersons	III	FT	13 190	16
42 Automotive tradespersons	III	FT	7 640	9
43 Electrical and electronics tradespersons	III	FT	5 740	7
41 Mechanical and fabrication engineering tradespersons	III	FT	5 020	6
45 Food tradespersons	III	FT	4 860	6
92 Factory labourers	I/II	FT	3 990	5
49 Other tradespersons and related workers	III	FT	3 050	4
99 Other labourers and related workers	I/II	FT	2 890	3
62 Intermediate sales and related workers	III	FT	2 380	3
79 Other intermediate production and transport workers	III	FT	2 100	3
<b>Top 10 total</b>			<b>50 870</b>	<b>61</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 3: The top 10 apprenticeships and traineeships, commencements, 2003, females under 25 years**

ASCO	Qual. level	FT/PT	Number	%
61 Intermediate clerical workers	III	FT	7 310	13
63 Intermediate service workers	III	PT	4 020	7
49 Other tradespersons and related workers	III	FT	3 870	7
63 Intermediate service workers	III	FT	3 840	7
62 Intermediate sales and related workers	I/II	PT	3 490	6
61 Intermediate clerical workers	I/II	FT	3 400	6
62 Intermediate sales and related workers	III	PT	3 170	6
62 Intermediate sales and related workers	III	FT	2 980	5
82 Elementary sales workers	I/II	FT	2 110	4
62 Intermediate sales and related workers	I/II	FT	2 060	4
<b>Top 10 total</b>			<b>36 240</b>	<b>63</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 4: The top 10 apprenticeships and traineeships, commencements, 2003, males 25–44**

ASCO	Qual. level	FT/PT	Number	%
79 Other intermediate production and transport workers	III	FT	5 250	10
73 Road and rail transport drivers	III	FT	4 240	8
92 Factory labourers	I/II	FT	2 440	5
32 Business and administration associate professionals	IV+	FT	2 390	5
61 Intermediate clerical workers	III	FT	2 370	5
62 Intermediate sales and related workers	III	FT	2 010	4
72 Intermediate machine operators	III	FT	1 710	3
92 Factory labourers	III	FT	1 660	3
71 Intermediate plant operators	III	FT	1 480	3
44 Construction tradespersons	III	FT	1 160	2
<b>Top 10 total</b>			<b>24 700</b>	<b>49</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 5: The top 10 apprenticeships and traineeships, commencements, 2003, females 25–44**

ASCO	Qual. level	FT/PT	Number	%
63 Intermediate service workers	III	PT	4 170	10
61 Intermediate clerical workers	III	FT	4 140	10
63 Intermediate service workers	III	FT	2 130	5
61 Intermediate clerical workers	III	PT	2 060	5
32 Business and administration associate professionals	IV+	FT	1 950	5
62 Intermediate sales and related workers	III	FT	1 830	4
62 Intermediate sales and related workers	III	PT	1 550	4
32 Business and administration associate professionals	III	FT	1 140	3
91 Cleaners	III	PT	1 100	3
63 Intermediate service workers	IV+	PT	1 080	3
<b>Top 10 total</b>			<b>21 150</b>	<b>52</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004



**Table 6: The top 10 apprenticeships and traineeships, commencements, 2003, males 45+**

ASCO	Qual. level	FT/PT	Number	%
73 Road and rail transport drivers	III	FT	2 250	13
79 Other intermediate production and transport workers	III	FT	2 090	12
61 Intermediate clerical workers	III	FT	1 010	6
71 Intermediate plant operators	III	FT	830	5
72 Intermediate machine operators	III	FT	730	4
32 Business and administration associate professionals	IV+	FT	690	4
92 Factory labourers	III	FT	600	4
99 Other labourers and related workers	III	FT	560	3
62 Intermediate sales and related workers	III	FT	510	3
32 Business and administration associate professionals	III	FT	490	3
<b>Top 10 total</b>			<b>9 760</b>	<b>58</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 7: The top 10 apprenticeships and traineeships, commencements, 2003, females 45+**

ASCO	Qual. level	FT/PT	Number	%
63 Intermediate service workers	III	PT	2 300	12
61 Intermediate clerical workers	III	FT	2 160	12
61 Intermediate clerical workers	III	PT	1 260	7
91 Cleaners	III	PT	980	5
63 Intermediate service workers	III	FT	930	5
63 Intermediate service workers	IV+	PT	800	4
32 Business and administration associate professionals	IV+	FT	750	4
32 Business and administration associate professionals	III	FT	670	4
79 Other intermediate production and transport workers	III	FT	640	3
62 Intermediate sales and related workers	III	FT	630	3
<b>Top 10 total</b>			<b>11 130</b>	<b>60</b>

Note: ASCO=Australian Standard Classification of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

As expected, young people tend to be in apprenticeships and traineeships different from those occupied by older people, and men in different apprenticeships and traineeships from women. Young men tend to undertake more traditional trade apprenticeships, but there are substantial numbers in sales and labouring.

Men between 25 and 44 years are spread across many areas: transport, labouring, plant operation, clerical, sales and construction. Men over the age of 45 years tend to be in similar areas.

Young women are concentrated in clerical, sales and other service trades (for example, hairdressing). Older women are concentrated in service, clerical, business, sales and cleaning occupations.

## Occupation or working arrangements

It is apparent from the above tables that younger people are more likely than older people to undertake apprenticeships and traineeships at AQF I/II level. The higher-level qualifications (AQF IV and diplomas) are more important for older people, particularly women. Part-time apprenticeships or traineeships are relatively common for women of all ages, but there are also substantial numbers for men. The relatively large numbers relating to young men reflect the emergence of school-based apprenticeships and traineeships (table 8).

**Table 8: Proportion of apprenticeships and traineeships by level and full-time/part-time status, commencements, 2003 (%)**

Demographic group	AQF I/II	AQF III	AQF IV+	Full-time	Part-time	All
Males under 25	28	69	3	81	19	100
Males 25–44	17	71	12	86	14	100
Males 45+	10	79	11	84	16	100
Females under 25	37	57	6	61	39	100
Females 25–44	14	68	18	58	42	100
Females 45+	8	76	17	52	48	100
<b>Total</b>	<b>23</b>	<b>68</b>	<b>9</b>	<b>72</b>	<b>28</b>	<b>100</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

However, is this pattern because of the types of apprenticeships and traineeships undertaken by older people, or is it because older people are choosing different qualification levels or working arrangements within a particular occupation? We answer this question by looking at how the relationship between the apprenticeship or traineeship (classified by occupation) and working full-time or part-time varies across the demographic groups.

We can then separate the relative likelihood of, say, an older male working full-time into two components. The first component reflects the propensity to work full-time relative to all people within particular apprenticeships or traineeships, while the second component reflects the types of occupations that older males work in.<sup>3</sup>

The results of the analysis are shown in tables 9 and 10.

**Table 9: Differences in the proportions of apprentices and trainees of different age groups undertaking full-time work (%)**

Demographic group	Full-time	Difference due to distribution of occupation	Total difference between $P_i$ and $P$	Difference due to propensity to be full-time
Males under 25	81	1	8	9
Males 25–44	86	10	4	14
Males 45+	84	8	3	11
Females under 25	61	-3	-9	-11
Females 25–44	58	-6	-8	-14
Females 45+	52	-13	-7	-20
All people	72			

Note:  $P_i$  is defined as the proportion working full-time within particular apprenticeships or traineeships.  
 $P$  is defined as the proportion working full-time across all occupations.

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

<sup>3</sup> The formula is given in appendix 4.

**Table 10: Propensity for apprentices and trainees to study at a specific AQF level (%)**

Demographic group	At cert. III+	Difference due to propensity to be at AQF III+	Difference due to distribution of occupation	Total difference between Pi and P
Males under 25	72	-9	4	-5
Males 25–44	83	8	-1	7
Males 45+	90	13	1	14
Females under 25	63	-8	-5	-13
Females 25–44	86	8	1	10
Females 45+	92	7	8	16
All people	77			

Note: Pi is defined as the proportion at AQF level III within particular apprenticeships or traineeships.

P is defined as the proportion at AQF level III across all occupations.

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

We explain this disaggregation by using males 45 years and over as shown in table 9. The overall proportion of apprentices or trainees in this group who work full-time is 84%, compared with the overall proportion of 72%. The difference (rounded to the nearest digit) is 11%, so males 45 years and over are significantly more likely to be full-time relative to all apprentices and trainees. The 11% difference can be split into two components: the propensity to be full-time within particular apprenticeships or traineeships (8%); and a second component attributed to the occupations where the apprenticeships or traineeships of the age group tend to be (3%). For this age group, therefore, the main reason for being full-time is the propensity to be full-time after controlling for occupation.

Table 9 indicates that, for males less than 25 years and women under the age of 45 years, the dominant reason for the proportion working full-time is because of the occupations (and therefore apprenticeships and traineeships) those groups have chosen. By contrast, the occupational distribution is less important for males over the age of 25 years and females over the age of 45.

Similarly, we look at how the relationship between the apprenticeship or traineeship (classified by occupation) and the qualification level varies. Looking at the proportion of each group in apprenticeships or traineeships at certificate III or higher, we see that the occupational distributions have little explanatory power, with the exception of females 45 years and over. Young people tend to have lower proportions in the certificate III and above group, irrespective of occupation. Older people are less likely to take up a low-level apprenticeship or traineeship, irrespective of the occupation.

## Existing workers

One of the elements of the New Apprenticeship changes of 1998 was the introduction of incentives for existing workers undertaking an apprenticeship or traineeship. Existing workers tend to be in the over 25 years age group, where they made up over 40% of the commencements in 2003 in the 25 to 44 years age groups and 60% of the 45 and over age groups. Their distribution across the ten occupations with the largest number of existing worker apprenticeship and traineeships can be seen in table 11.

**Table 11: Existing workers across occupations, commencements, 2003**

ASCO		Males			Females			All existing workers	Not existing workers
		Under 25	25–44	45+	Under 25	25–44	45+		
61	Intermediate clerical workers	380	1 690	970	1 210	4 090	2 990	11 330	20 690
62	Intermediate sales and related workers	1800	1 700	480	2 340	2 110	890	9 320	23 020
32	Business and administration associate professionals	510	2 640	1 020	630	2 790	1 620	9 220	5 630
79	Other intermediate production and transport workers	1 100	4 130	1 930	140	950	670	8 920	6 530
63	Intermediate service workers	500	740	330	930	2 760	2 300	7 550	28 030
33	Managing supervisors (sales and service)	260	950	320	420	1 670	1 060	4 680	3 170
73	Road and rail transport drivers	230	2 380	1 480	20	100	50	4 250	4 870
82	Elementary sales workers	940	710	180	1 070	650	230	3 770	11 970
92	Factory labourers	350	1 330	550	120	670	340	3 370	11 960
72	Intermediate machine operators	210	1 380	640	30	190	140	2 600	1 660
All existing workers		9 550	23 500	10 360	7 730	18 200	11 710	81 050	
All apprentices and trainees		89 360	50 170	16 730	63 770	40 940	18 620	279 580	

Notes: Numbers exclude unknown full-time/part-time status.

ASCO=Australian Standard Classification of Occupations

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

Large numbers of existing worker apprentices and trainees are found in clerical, retail, business and administration, transport and factory/machine operator occupations. Not surprisingly, relatively few existing worker apprentices or trainees are under the age of 25 years.

## Where do older workers dominate?

To complete the analysis of the characteristics of apprentices and trainees, we consider the importance of each demographic group within specific apprenticeship/traineeships. The full table is in appendix 5.

Table 12 presents the 15 most common apprenticeship/traineeships (that is, with the highest number of commencements in 2003), defined as before through the combination of occupation, qualification level and whether full-time or part-time.

**Table 12: Age and sex shares of apprenticeships/traineeships, 2003 (%)**

ASCO		Qual. level	FT/PT	Male			Female			All
				Under 25	25–44	45+	Under 25	25–44	45+	
61	Intermediate clerical workers	III	FT	9	13	5	39	22	11	100
44	Construction tradespersons	III	FT	91	8	0	1	0	0	100
63	Intermediate service workers	III	PT	12	7	3	32	30	17	100
79	Other intermediate production and transport workers	III	FT	18	46	18	2	9	6	100
62	Intermediate sales and related workers	III	FT	23	19	5	29	18	6	100
63	Intermediate service workers	III	FT	16	11	3	39	22	9	100
92	Factory labourers	I/II	FT	47	29	5	7	10	2	100
42	Automotive tradespersons	III	FT	92	6	0	2	0	0	100
62	Intermediate sales and related workers	III	PT	24	4	1	45	19	7	100
62	Intermediate sales and related workers	I/II	PT	32	2	1	56	7	2	100
49	Other tradespersons and related workers	III	FT	39	7	1	49	3	1	100
32	Business and administration associate professionals	IV +	FT	12	31	9	12	25	10	100
45	Food tradespersons	III	FT	64	12	2	19	3	1	100
73	Road and rail transport drivers	III	FT	7	58	31	0	2	1	100
43	Electrical and electronics tradespersons	III	FT	85	13	1	1	0	0	100
Total ASCO				32	18	6	23	15	7	100

Note: ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

It is interesting to note how varied the patterns are. Some apprenticeships/traineeships are totally dominated by one group. For example, young men completely dominate traditional trade apprentices in occupation groups such as construction tradespersons, automotive tradespersons, and electrical and electronic tradespersons. Older men dominate the occupation groups of road and rail transport drivers and other intermediate production and transport workers. Young people tend to dominate occupation groups such as intermediate sales and related workers, in particular at qualification levels I/II and III. Business and administrative associate professionals have good representations from both men and women, with most from the age group 25 to 44 years.

In tables 13 to 18 we present the 15 apprenticeships and traineeships where each demographic group has its largest share of people, excluding those groups with small numbers in them (under 50).

**Table 13: Apprenticeships and traineeships for which males under 25 have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
42 Automotive tradespersons	III	FT	7 640	92
44 Construction tradespersons	III	FT	13 190	91
43 Electrical and electronics tradespersons	I/II	FT	50	89
43 Electrical and electronics tradespersons	III	FT	5 740	85
45 Food tradespersons	I/II	FT	50	84
31 Science, engineering and related associate professionals	I/II	FT	310	83
41 Mechanical and fabrication engineering tradespersons	III	FT	5 020	81
44 Construction tradespersons	I/II	FT	80	79
71 Intermediate plant operators	I/II	FT	150	77
13 Farmers and farm managers	I/II	FT	120	72
99 Other labourers and related workers	I/II	FT	2 890	69
21 Science, building and engineering professionals	III	FT	70	69
41 Mechanical and fabrication engineering tradespersons	IV+	FT	310	68
49 Other tradespersons and related workers	I/II	FT	380	67
45 Food tradespersons	III	FT	4 860	64
<b>Total ASCO</b>			<b>89 360</b>	<b>32</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 14: Apprenticeships and traineeships for which males aged 25–44 have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
99 Other labourers and related workers	IV+	FT	60	67
73 Road and rail transport drivers	IV+	FT	120	63
73 Road and rail transport drivers	I/II	FT	440	60
73 Road and rail transport drivers	III	FT	4 240	58
71 Intermediate plant operators	III	FT	1 480	55
72 Intermediate machine operators	III	FT	1 710	51
99 Other labourers and related workers	III	FT	1 080	49
79 Other intermediate production and transport workers	IV+	FT	230	48
73 Road and rail transport drivers	I/II	PT	90	46
79 Other intermediate production and transport workers	III	FT	5 250	46
11 Generalist managers	IV+	FT	880	45
99 Other labourers and related workers	III	PT	120	43
83 Elementary service workers	III	FT	770	43
50 Advanced clerical and service workers, nfd	III	FT	110	41
92 Factory labourers	III	FT	1 660	40
<b>Total ASCO</b>			<b>50 160</b>	<b>19</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time; nfd=no further defined

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 15: Apprenticeships and traineeships for which males aged 45 years and over have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
73 Road and rail transport drivers	III	PT	310	42
73 Road and rail transport drivers	III	FT	2 250	31
71 Intermediate plant operators	III	FT	830	31
79 Other intermediate production and transport workers	IV+	FT	120	26
99 Other labourers and related workers	III	FT	560	25
91 Cleaners	III	FT	250	24
72 Intermediate machine operators	III	FT	730	22
73 Road and rail transport drivers	I/II	FT	160	22
79 Other intermediate production and transport workers	III	FT	2 090	18
99 Other labourers and related workers	III	PT	50	17
92 Factory labourers	III	FT	600	14
45 Food tradespersons	III	PT	50	14
91 Cleaners	III	PT	470	13
83 Elementary service workers	III	FT	240	13
11 Generalist managers	IV+	FT	250	13
<b>Total ASCO</b>			<b>16 730</b>	<b>6</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 16: Apprenticeships and traineeships for which females aged under 25 have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
81 Elementary clerks	I/II	FT	160	90
23 Health professionals	III	FT	90	75
61 Intermediate clerical workers	I/II	FT	3 400	75
49 Other tradespersons and related workers	III	PT	150	59
23 Health professionals	IV+	FT	50	55
62 Intermediate sales and related workers	I/II	PT	3 490	54
82 Elementary sales workers	I/II	PT	1 930	51
82 Elementary sales workers	I/II	FT	2 110	50
49 Other tradespersons and related workers	III	FT	3 870	49
61 Intermediate clerical workers	I/II	PT	300	48
63 Intermediate service workers	I/II	PT	1 380	47
34 Health and welfare associate professionals	IV+	FT	120	46
63 Intermediate service workers	I/II	FT	1 520	45
62 Intermediate sales and related workers	I/II	FT	2 060	44
62 Intermediate sales and related workers	III	PT	3 170	43
<b>Total ASCO</b>			<b>63 770</b>	<b>23</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 17: Apprenticeships and traineeships for which females aged 25–44 have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
61 Intermediate clerical workers	IV+	PT	250	62
24 Education professionals	III	PT	80	61
11 Generalist managers	IV+	PT	70	53
32 Business and administration associate professionals	IV+	PT	400	49
33 Managing supervisors (sales and service)	III	PT	570	47
12 Specialist managers	IV+	FT	70	47
34 Health and welfare associate professionals	IV+	PT	50	44
59 Other advanced clerical and service workers	III	PT	690	44
61 Intermediate clerical workers	III	PT	2 060	42
23 Health professionals	IV+	PT	130	42
32 Business and administration associate professionals	III	PT	480	42
63 Intermediate service workers	IV+	PT	1 080	41
59 Other advanced clerical and service workers	IV+	FT	50	40
61 Intermediate clerical workers	IV+	FT	680	38
81 Elementary clerks	III	PT	180	37
<b>Total ASCO</b>			<b>40 940</b>	<b>15</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

**Table 18: Apprenticeships and traineeships for which females aged 45 years and over have their largest share, commencements, 2003**

ASCO	Qual. level	FT/PT	Total number	Group's share (%)
33 Managing supervisors (sales and service)	III	PT	420	35
32 Business and administration associate professionals	III	PT	350	30
63 Intermediate service workers	IV+	PT	800	30
91 Cleaners	III	PT	980	28
61 Intermediate clerical workers	III	PT	1 260	26
61 Intermediate clerical workers	IV+	PT	100	25
32 Business and administration associate professionals	IV+	PT	170	21
81 Elementary clerks	III	PT	90	19
63 Intermediate service workers	III	PT	2 300	17
61 Intermediate clerical workers	IV+	FT	310	17
33 Managing supervisors (sales and service)	III	FT	580	17
92 Factory labourers	III	PT	110	16
91 Cleaners	III	FT	160	15
91 Cleaners	I/II	PT	230	15
32 Business and administration associate professionals	III	FT	670	14
<b>Total ASCO</b>			<b>18 620</b>	<b>7</b>

Notes: This table only includes groups with 50 or more people.

ASCO=Australian Standard of Occupations; FT=full-time; PT=part-time

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004



Young males dominate in a number of apprenticeships and traineeships, especially in full-time construction and automotive occupations, at AQF level III. By comparison, young females are less dominant in their chosen occupation groups, and the other demographic groups are less dominant again.

Men and women aged 45 and over are the least dominant in the New Apprenticeship system. However, this group makes up only 13% of commencements. With this in mind, the importance of certain occupation groups for older people can be seen; for example, road and rail transport drivers, where nearly half (42%) of commencements at certificate level III (part-time) are males aged 45 and over. The rest of this group is mainly made up of men aged 25 to 44.

With the exception of contracts in the occupations of health, health and welfare associate professionals and mechanical and fabrication engineering tradespersons, higher-level contracts (certificate IV+) in various occupations are dominated by both men and women aged 25 and over. Certificate III qualifications undertaken on a full-time basis are dominated by men, while part-time contracts are dominated by women. In addition, men and women aged under 25 equally dominate certificate I/II qualifications, with the exception of the road and rail transport drivers occupation group (82% of full-time contracts in this group are undertaken by men aged 25 and over).

So while certain apprenticeships and traineeships can be categorised as 'young male' or more rarely 'young female', there are few other apprenticeships or traineeships that can be specifically characterised as 'middle-aged male', or 'middle-aged female', 'older male' or 'older female'. As tables 13 to 18 indicate, those that do make up a very short list indeed. In fact, the contracts commenced by people aged 25 to 44 are similar to those commenced by people aged 45 and over of the same sex, but are different from people aged under 25; that is, someone aged 25 to 44 is more likely to be in a contract with others the same age or older, but not younger.

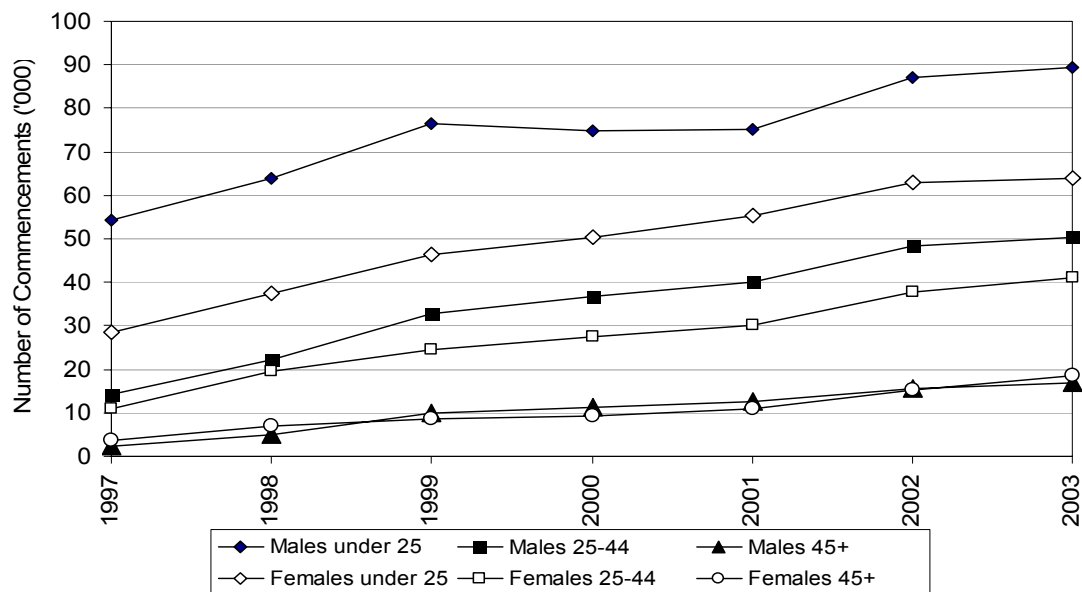
The occupations dominated by people aged 25 and over include: intermediate plant operators; road and rail transport drivers; intermediate machine operators; managing supervisors (sales and service); business and administrative associate professionals; intermediate clerical workers; and intermediate service workers. Apart from this trend, contracts in cleaning tend to be dominated by men and women aged 45 and over.

## Changes between 1997 and 2003

The entire apprenticeship and traineeship system has grown remarkably over the last six or seven years. As can be seen from figure 2, the numbers have grown for all age and sex groups, but the largest percentage increase was for males over the age of 45 years, followed by women aged 45 years and over. The group with the slowest growth is young males, but even here the growth was over 50%.

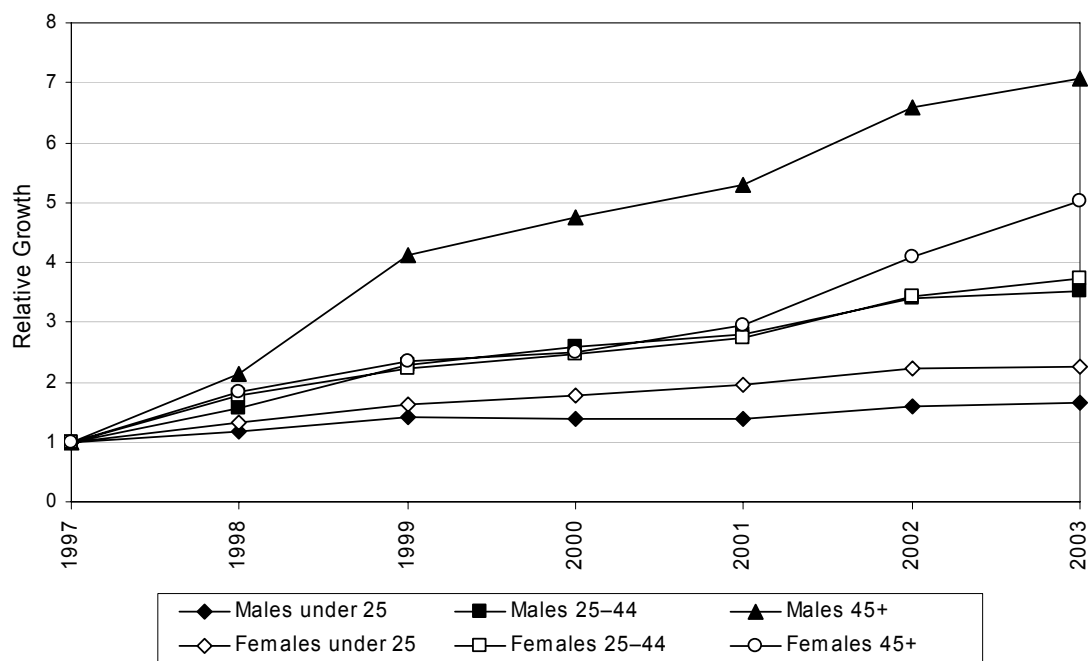
The proportion of apprentices and trainees to employed people has nearly doubled between 1997 and 2003, with growth in the numbers of apprentices/trainees in-training in all of the six demographic groups being greater than the growth of people employed. This growth is particularly noticeable in male and female apprentices/trainees aged 45 and over. Tables 19 and 20 show the proportions of apprentices and trainees to employed people in each occupation group at demographic level (age and sex)

**Figure 2: Absolute growth in the apprenticeship and trainee system by demographic groups, 1997–2003**



Source: NCVER Apprenticeship and Trainee Collection, no. 39, March quarter, 2004

**Figure 3: Relative growth in apprenticeship and trainee contract commencements, 1997–2003**



Source: NCVER Apprenticeship and Trainee Collection, no. 39, March quarter, 2004

**Table 19: Proportion of male apprentices/trainees in-training to employed people, 1997 and 2003**

Males	Employed people at November		Apprentices /trainees in-training at 31 December		Proportion of apprentices/trainees to employed people	
	1997 ('000)	2003 ('000)	1997 ('000)	2003 ('000)	1997 (%)	2003 (%)
<i>15–24</i>						
Managers and administrators	14.8	10.5	1.6	0.4	10.8	3.8
Professionals	41.8	56.5	0.2	0.7	0.5	1.2
Associate professionals	51.0	64.1	2.3	4.2	4.5	6.6
Tradespersons and related workers	203.0	218.7	97.9	102.1	48.2	46.7
Advanced clerical and service workers	7.0	4.6	0.0	0.7	0.0	15.2
Intermediate clerical, sales and service workers	84.0	90.4	5.3	18.3	6.3	20.2
Intermediate production and transport workers	109.3	94.7	1.4	6.3	1.3	6.7
Elementary clerical, sales and service workers	120.1	161.6	2.8	5.2	2.3	3.2
Labourers and related workers	177.7	188.5	5.3	9.9	3.0	5.3
<b>Total</b>	<b>808.6</b>	<b>889.4</b>	<b>116.9</b>	<b>147.7</b>	<b>14.5</b>	<b>16.6</b>
<i>25–44</i>						
Managers and administrators	220.0	228.1	0.4	1.1	0.2	0.5
Professionals	442.8	476.9	0.2	0.4	0.0	0.1
Associate professionals	303.2	351.4	1.4	7.1	0.5	2.0
Tradespersons and related workers	538.7	548.1	9.4	15.7	1.7	2.9
Advanced clerical and service workers	19.1	21.9	0.0	0.9	0.0	4.1
Intermediate clerical, sales and service workers	220.7	220.4	2.5	11.7	1.1	5.3
Intermediate production and transport workers	349.0	323.8	1.1	24.2	0.3	7.5
Elementary clerical, sales and service workers	116.5	105.2	1.0	4.1	0.9	3.9
Labourers and related workers	242.2	234.2	4.3	10.4	1.8	4.4
<b>Total</b>	<b>2452.3</b>	<b>2510.1</b>	<b>20.4</b>	<b>75.6</b>	<b>0.8</b>	<b>3.0</b>

<b>Males</b>	<b>Employed people at November</b>		<b>Apprentices /trainees in-training at 31 December</b>		<b>Proportion of apprentices/trainees to employed people</b>	
	1997 ('000)	2003 ('000)	1997 ('000)	2003 ('000)	1997 (%)	2003 (%)
<b>45+</b>						
Managers and administrators	255.9	288.4	0.0	0.3	0.0	0.1
Professionals	282.3	353.7	0.1	0.1	0.0	0.0
Associate professionals	206.3	265.9	0.3	2.1	0.1	0.8
Tradespersons and related workers	278.9	329.0	0.4	1.7	0.1	0.5
Advanced clerical and service workers	19.6	17.8	0.0	0.4	0.0	2.2
Intermediate clerical, sales and service workers	111.8	137.9	0.5	3.8	0.4	2.8
Intermediate production and transport workers	212.6	256.4	0.3	13.3	0.1	5.2
Elementary clerical, sales and service workers	68.1	72.7	0.2	1.3	0.3	1.8
Labourers and related workers	128.1	161.9	0.8	4.4	0.6	2.7
<b>Total</b>	<b>1563.5</b>	<b>1883.8</b>	<b>2.6</b>	<b>27.3</b>	<b>0.2</b>	<b>1.4</b>
<b>Total</b>						
Managers and administrators	490.7	527.0	2.0	1.8	0.4	0.3
Professionals	766.9	887.1	0.5	1.2	0.1	0.1
Associate professionals	560.5	681.3	4.0	13.4	0.7	2.0
Tradespersons and related workers	1020.5	1095.7	107.8	119.4	10.6	10.9
Advanced clerical and service workers	45.7	44.3	0.1	2.0	0.2	4.5
Intermediate clerical, sales and service workers	416.5	448.7	8.2	33.8	2.0	7.5
Intermediate production and transport workers	670.9	674.9	2.9	43.8	0.4	6.5
Elementary clerical, sales and service workers	304.7	339.5	4.0	10.6	1.3	3.1
Labourers and related workers	547.9	584.6	10.4	24.6	1.9	4.2
<b>Total</b>	<b>4824.4</b>	<b>5283.2</b>	<b>139.8</b>	<b>250.6</b>	<b>2.9</b>	<b>4.7</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004; ABS Australian Labour Market Statistics, November 2003, November 1997

**Table 20: Proportion of female apprentices/trainees in-training to employed people, 1997 and 2003**

Females	Employed people at November		Apprentices /trainees in-training at 31 December		Proportion of apprentices/trainees to employed people	
	1997 ('000)	2003 ('000)	1997 ('000)	2003 ('000)	1997 (%)	2003 (%)
<b>15–24</b>						
Managers and administrators	5.1	4.8	0.4	0.3	7.8	6.3
Professionals	65.1	71.6	0.1	0.6	0.2	0.8
Associate professionals	37.9	50.9	0.7	4.0	1.8	7.9
Tradespersons and related workers	23.6	28.2	13.2	14.5	55.9	51.4
Advanced clerical and service workers	47.6	32.8	0.1	1.7	0.2	5.2
Intermediate clerical, sales and service workers	229.0	266.5	12.1	39.5	5.3	14.8
Intermediate production and transport workers	20.1	13.0	0.1	0.7	0.5	5.4
Elementary clerical, sales and service workers	269.2	303.7	3.5	6.6	1.3	2.2
Labourers and related workers	58.2	57.1	1.0	1.9	1.7	3.3
<b>Total</b>	<b>755.8</b>	<b>828.5</b>	<b>31.4</b>	<b>69.9</b>	<b>4.2</b>	<b>8.4</b>
<b>25–44</b>						
Managers and administrators	73.3	90.6	0.1	0.6	0.1	0.7
Professionals	438.1	511.5	0.4	0.7	0.1	0.1
Associate professionals	181.0	243.7	0.9	8.3	0.5	3.4
Tradespersons and related workers	53.9	56.5	1.6	2.4	3.0	4.2
Advanced clerical and service workers	178.4	174.8	0.0	2.9	0.0	1.7
Intermediate clerical, sales and service workers	549.4	548.4	5.6	25.4	1.0	4.6
Intermediate production and transport workers	59.9	48.1	0.1	3.2	0.2	6.7
Elementary clerical, sales and service workers	203.8	187.7	1.0	2.9	0.5	1.5
Labourers and related workers	150.6	134.3	1.0	4.9	0.7	3.6
<b>Total</b>	<b>1888.3</b>	<b>1995.6</b>	<b>10.7</b>	<b>51.2</b>	<b>0.6</b>	<b>2.6</b>

Females	Employed people at November		Apprentices /trainees in-training at 31 December		Proportion of apprentices/trainees to employed people	
	1997 ('000)	2003 ('000)	1997 ('000)	2003 ('000)	1997 (%)	2003 (%)
<i>45+</i>						
Managers and administrators	74.9	89.3	0.0	0.2	0.0	0.2
Professionals	219.1	335.9	0.3	0.2	0.1	0.1
Associate professionals	112.2	177.1	0.3	3.6	0.3	2.0
Tradespersons and related workers	29.5	34.8	0.2	0.7	0.7	2.0
Advanced clerical and service workers	112.3	137.0	0.0	1.2	0.0	0.9
Intermediate clerical, sales and service workers	260.6	358.5	2.2	13.0	0.8	3.6
Intermediate production and transport workers	30.9	40.0	0.0	2.0	0.0	5.0
Elementary clerical, sales and service workers	118.9	128.1	0.2	1.0	0.2	0.8
Labourers and related workers	107.2	126.6	0.3	3.1	0.3	2.4
<b>Total</b>	<b>1065.4</b>	<b>1427.4</b>	<b>3.5</b>	<b>25.1</b>	<b>0.3</b>	<b>1.8</b>
<i>Total</i>						
Managers and administrators	153.3	184.7	0.6	1.1	0.4	0.6
Professionals	722.3	919.1	0.8	1.5	0.1	0.2
Associate professionals	331.0	471.7	1.9	15.9	0.6	3.4
Tradespersons and related workers	106.9	119.5	15.0	17.5	14.0	14.6
Advanced clerical and service workers	338.2	344.6	0.1	5.8	0.0	1.7
Intermediate clerical, sales and service workers	1038.9	1173.4	20.0	77.9	1.9	6.6
Intermediate production and transport workers	110.9	101.1	0.3	6.0	0.3	5.9
Elementary clerical, sales and service workers	591.9	619.5	4.8	10.5	0.8	1.7
Labourers and related workers	316.0	318.0	2.2	9.9	0.7	3.1
<b>Total</b>	<b>3709.4</b>	<b>4251.5</b>	<b>45.6</b>	<b>146.2</b>	<b>1.2</b>	<b>3.4</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004; ABS Australian Labour Market Statistics, November 2003, November 1997

As expected, there has been some shift in the proportions of apprentices and trainees in the numbers of employed people over the six-year period. Male apprentices and trainees aged under 25 remain the most prominent demographic group when compared with the number of employed men in this group and particularly so in the trades, clerical, sales and service workers occupation groups.

There has, however, been strong growth in representation of both male and female apprentices and trainees in the workforce in the 45 years and over age group. The uptake of apprenticeships/traineeships in the intermediate production and transport workers and intermediate clerical, sales and service workers occupation groups, especially by those age 45 years and over, is high, but not necessarily reflected in the same magnitude as the number of people employed in these groups. This indicates that older people are using apprenticeships and traineeships as training in particular occupations. Referring back to the earlier discussion, 40% of commencements in the 25 to 44-year-old age group were existing workers, with 60% in the 45 years and over age group. So, while substantial numbers of older people are entering an occupation through an apprenticeship or traineeship, many are using apprenticeships and traineeships to obtain training or credentials.

There are, in fact, some occupation groups in which the numbers of apprentices and trainees have been growing, while the number of employed people has remained stable, or has even declined. For instance, there has been a decline in the numbers of men employed in the advanced clerical and service workers occupation group, evident in the age groups of under 25 and over 45. There has, however, been a significant increase in the number of apprentices and trainees. In addition, numbers of employed men aged 25 to 44 in the occupation group of elementary clerical, sales and service workers have dropped 10% between 1997 and 2003, although the number of apprentices and trainees in this group has more than tripled.

## Shift-share analysis of growth in the system

The growth within each of the six demographic groups can be conceptualised as occurring for three reasons:

- ✧ the overall growth in the system
- ✧ the shares that particular age groups have within particular types of apprenticeships and traineeships<sup>4</sup>
- ✧ the nature of the growth (that is, the types of apprenticeships and traineeships that have grown).

We attempt to understand this through a 'shift-share' analysis. We calculate three effects for each age group:

- ✧ *a growth effect*: the growth effect is interpreted as the growth that would have occurred for a particular demographic group if the number of apprenticeships and traineeships had grown uniformly, and each group had maintained its share within each apprenticeship and traineeship.
- ✧ *a share effect*: the share effect is interpreted as the growth that would have occurred for a particular demographic group if the structure of apprentices and trainees (characterised by occupation, full-time/part-time and qualification level) had been unchanged and there had been no change in the overall numbers.
- ✧ *a structural effect*: the structural effect is interpreted as the growth that would have occurred for a particular demographic group if there had been no change in overall numbers and each demographic group had maintained its share within each apprenticeship and traineeship (characterised by occupation, full-time/part-time and qualification level).

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<sup>4</sup> By apprenticeship or traineeship we are referring to an apprenticeship or traineeship, classified by occupation, qualification level and whether full-time or part-time.

The algebra can be found in appendix 6.

The results of the analysis are in table 21.

The number of apprentice and trainee commencements during 2003 was 279 600, an 85% increase from the 113 200 commencements in 1997.

The six demographic groups, however, have not grown uniformly. Males aged 45 and over have more than doubled in commencements, while males under 25 have increased by 50%.

**Table 21: Disaggregation of growth in commencements, 1997 to 2003**

Demographic group	1997	2003	Growth (%)	Share effect (%)	Structural effect (%)	Growth effect (%)	Residual (%)
Males under 25	53 830	89 360	50	3	-14	85	-24
Males 25–44	14 050	50 170	112	19	22	85	-13
Males 45+	2 350	16 730	151	26	38	85	2
Females under 25	28 260	63 770	77	24	-14	85	-18
Females 25–44	10 990	40 940	115	-6	34	85	2
Females 45+	3 700	18 620	134	-5	44	85	10
<b>Total</b>	<b>113 180</b>	<b>279 580</b>	<b>85</b>				

Source: NCVET Apprentice and Trainee Collection, no. 39, March quarter, 2004

The demographic groups that have increased their share are: older males; that is, males aged between 25 and 44 years (19%) and 45 years and older (26%); and young women (24%). Young men and older women had only small changes to their shares.

The change in the structure of apprenticeships and traineeships, on the other hand, favours older workers over younger workers; that is, the apprenticeships and traineeships that have become more common between 1997 and 2003 are those where older people are more important.

The groups which have benefited from both of these phenomena are those aged 45 years and over and, to a lesser extent, those aged between 24 and 44. Of course, it needs to be noted that the figures in 1997 were relatively small for both males and females aged 45 years and over.

In practice, these three effects—growth, share and structural—do not totally explain the growth within each demographic group and there is a residual component that reflects the approximate nature of the formula. When changes are very large, these residuals can be reasonably large.

The shift-share analysis described above shows that the expansion in apprenticeships and traineeships has been far from uniform. Occupations have changed in importance and shares of demographic groups have also changed. One of the impacts of these changes is that the ‘typical’ apprenticeship for a young man or young woman or for older groups has changed. If we compare the 15 most popular apprenticeships for each group, we see that there has been a change between 1997 and 2003. Moreover, in 2003 the top 15 account for a significantly lower proportion for each age group. In a sense, apprenticeships and traineeships are becoming less defined and more widespread. To give some idea of the extent of the change, we provide some summary statistics in table 22.

A list of individual apprenticeships and traineeships for 1997 and 2003 is given in appendix 7. This list indicates how they have changed in importance.



**Table 22: Percentage accounted for by top 15 apprenticeships and traineeships, commencements, 1997 and 2003**

Demographic group	1997 (%)	2003 (%)
Males under 25	83	68
Males 25–44	73	59
Males 45+	77	69
Females under 25	89	76
Females 25–44	83	63
Females 45+	90	72
<b>Total</b>	<b>78</b>	<b>53</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

## Change in working arrangements and qualification levels

To continue looking at changes in the apprenticeship and traineeship system between 1997 and 2003, we look at the distribution of full-time and part-time apprenticeships and traineeships; we also look at how qualification levels have changed (tables 23 and 24).

**Table 23: Distribution of apprenticeships and traineeships across full-time/part-time, commencements, 1997 and 2003**

Demographic group	1997			2003		
	Full-time	Part-time	All	Full-time	Part-time	All
Males under 25	53 110	1 350	<b>54 460</b>	72 330	17 030	<b>89 420</b>
Males 25–44	13 770	530	<b>14 300</b>	43 290	6 880	<b>50 310</b>
Males 45+	2 260	110	<b>2 370</b>	14 020	2 720	<b>16 750</b>
Females under 25	26 700	1 690	<b>28 390</b>	38 810	24 960	<b>63 780</b>
Females 25–44	8 770	2 260	<b>11 030</b>	23 780	17 150	<b>40 980</b>
Females 45+	2 610	1 100	<b>3 710</b>	9 770	8 840	<b>18 630</b>
<b>Total</b>	<b>107 230</b>	<b>7 030</b>	<b>114 260</b>	<b>202 000</b>	<b>77 580</b>	<b>279 870</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

As can be seen, part-time apprenticeships and traineeships have grown for all groups. The growth is not concentrated in any particular demographic group. The growth is larger for females, but still substantial for males.

**Table 24: Distribution of apprenticeships and traineeships across qualification levels, commencements, 1997 and 2003**

Demographic group	1997				2003			
	Cert. I/II	Cert. III	Cert. IV+	All	Cert. I/II	Cert. III	Cert. IV+	All
Males under 25	20 080	33 210	540	<b>54 460</b>	25 040	61 700	2 680	<b>89 420</b>
Males 25–44	10 100	3 520	430	<b>14 300</b>	8 320	35 830	6 160	<b>50 310</b>
Males 45+	1 830	370	150	<b>2 370</b>	1 640	13 250	1 860	<b>16 750</b>
Females under 25	16 870	10 880	520	<b>28 390</b>	23 570	36 370	3 840	<b>63 780</b>
Females 25–44	5 510	5 080	400	<b>11 030</b>	5 640	27 820	7 530	<b>40 980</b>
Females 45+	1 420	2 180	100	<b>3 710</b>	1 460	14 070	3 100	<b>18 630</b>
<b>Total</b>	<b>55 810</b>	<b>55 240</b>	<b>2 130</b>	<b>114 260</b>	<b>65 670</b>	<b>189 020</b>	<b>25 180</b>	<b>279 870</b>

Source: NCVER Apprentice and Trainee Collection, no. 39, March quarter, 2004

The growth in certificate I/II commencements has been very modest (18% from 1997). Indeed, numbers have declined for males 25 to 44 years and males 45 years and over. There has been some increase for young males and females. At the other end of the qualification scale, there has been a healthy increase in

the numbers of apprenticeships and traineeships at certificate IV or diploma level. Here, the growth has been concentrated among people aged between 25 and 44 years, although both the younger group and older group have seen some growth. It must be noted however that certificate IV and diplomas only make up around 25 000 of the 280 000 (9%) commencements in 2003.

## Conclusion

This report has looked at the growth in apprenticeships and traineeships between 1997 and 2003, with a particular focus on older workers. In order to make sense of the data, we split apprentices and trainees into six demographic groups: males/females by less than 25 years; 25 to 44 years; and 45 years and over. The gender split is important because of the segmented nature of the labour market. The age split captures aspects of labour market segmentation as well as some life cycle elements. The other component of our approach is the characterisation of apprenticeships and traineeships in terms of the occupation (two-digit Australian Standard Classification of Occupations), qualification level and whether it is full-time or part-time.

The analysis shows a relatively complicated story. The typical apprentice or trainee is different, depending on gender and age. In 2003, the typical young male apprentice or trainee had commenced a full-time, construction apprenticeship at certificate level III; the male between 25 and 44 years had commenced an apprenticeship/traineeship in other intermediate production and transport occupations, which was full-time and at certificate III level; and a male over 45 years has commenced an apprenticeship/traineeship as a road and rail transport driver, again at certificate III level and full-time. The typical young woman had commenced a full-time apprenticeship/traineeship at certificate III level as an intermediated clerical worker; a woman between 25 years and 45 years had commenced a part-time apprenticeship/traineeship at certificate III level as an intermediate service worker; and the typical woman 45 years and over had commenced in the same apprenticeship/traineeship as her peer aged between 25 and 44 years.

The occupational preferences of the various age groups are also related to full-time or part-time status. Young males are almost all full-time and this is associated with their choice of occupation. Older males also tend to be full-time and this is reflected in both their choice of occupation and their working pattern within the occupation. As expected, the story is quite different for women. They both choose occupations in which part-time work is more common and more will work part-time within those occupations. The propensity to work part-time is particularly pronounced for older women.

The distribution of apprenticeships and traineeships has changed significantly. Apart from the obvious expansion of occupations, we have seen growth in part-time apprenticeships and traineeships and some change in the qualification level. Certificate III remains the dominant level, but the lower-level qualifications have become less important, while higher-level qualifications have grown substantially in relative terms, although the numbers are still modest. Part-time apprenticeships and traineeships have become much more common, with commencements increasing from 7000 to around 80 000.

Given the changes we have seen, it is not surprising that there have been exceedingly high growth rates in apprenticeships and traineeships among the older groups, both male and female. We went to some trouble to understand the driving force behind this change by looking at the share of the various groups within particular apprenticeships and traineeships, as well as focusing on the structural change in types of apprenticeships and traineeships. What we found was that changes in proportions of the specified groupings within particular apprenticeships and traineeships favoured older males and young females, whereas the expansion of apprenticeships and traineeships favoured older groups, both male and female.

It goes without saying that the main picture to emerge is one of change. Apprenticeships and traineeships are now very different in appearance from only seven years ago. The range of occupations has widened, part-time apprenticeship and traineeships are now common and apprenticeships and traineeships are no longer the preserve of the young male. The main point of stability is that certificate III is the dominant qualification level. Apprenticeships and traineeships have become more important for all age groups and for both sexes.

# References

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- ABS (Australian Bureau of Statistics) 1997, *Australian Standard Classification of Occupations*, 2nd edn, cat. no. 1220.0, ABS, Canberra.
- 2004, Labour Force Survey estimates, unpublished data from SuperTable, ABS, Canberra.
- Brooks, L 2004, *Australian vocational education and training statistics: Trends in 'traditional apprenticeships'*, NCVER, Adelaide.
- Kirby, P 1985, *Report of the Committee of Enquiry into Labour Market Programs* (Kirby Report), AGPS, Canberra.

# Appendix 1

Occupation (ASCO 2 digit) by qualification level and full-time/part-time status, commencements, 2003 (ordered by frequency)

2 digit code	ASCO sub-major group	AQF	FT/PT	Number
61	Intermediate Clerical Workers	III	FT	18 760
44	Construction Tradespersons	III	FT	14 570
63	Intermediate Service Workers	III	PT	13 860
79	Other Intermediate Production and Transport Workers	III	FT	11 420
62	Intermediate Sales and Related Workers	III	FT	10 340
63	Intermediate Service Workers	III	FT	9 850
92	Factory Labourers	I/II	FT	8 470
42	Automotive Tradespersons	III	FT	8 310
62	Intermediate Sales and Related Workers	III	PT	8 230
62	Intermediate Sales and Related Workers	I/II	PT	8 100
49	Other Tradespersons and Related Workers	III	FT	7 860
32	Business and Administration Associate Professionals	IV +	FT	7 690
45	Food Tradespersons	III	FT	7 560
73	Road and Rail Transport Drivers	III	FT	7 280
43	Electrical and Electronics Tradespersons	III	FT	6 780
82	Elementary Sales Workers	I/II	PT	6 700
41	Mechanical and Fabrication Engineering Tradespersons	III	FT	6 200
61	Intermediate Clerical Workers	III	PT	4 970
32	Business and Administration Associate Professionals	III	FT	4 870
62	Intermediate Sales and Related Workers	I/II	FT	4 630
61	Intermediate Clerical Workers	I/II	FT	4 550
63	Intermediate Service Workers	I/II	PT	4 360
82	Elementary Sales Workers	I/II	FT	4 190
99	Other Labourers and Related Workers	I/II	FT	4 170
92	Factory Labourers	III	FT	4 130
82	Elementary Sales Workers	III	FT	3 770
91	Cleaners	III	PT	3 540
33	Managing Supervisors (Sales and Service)	III	FT	3 450
63	Intermediate Service Workers	I/II	FT	3 390
72	Intermediate Machine Operators	III	FT	3 360
59	Other Advanced Clerical and Service Workers	III	FT	3 220
46	Skilled Agricultural and Horticultural Workers	III	FT	2 900
33	Managing Supervisors (Sales and Service)	IV +	FT	2 850

2 digit code	ASCO sub-major group	AQF	FT/PT	Number
71	Intermediate Plant Operators	III	FT	2 700
63	Intermediate Service Workers	IV +	PT	2 660
83	Elementary Service Workers	III	PT	2 580
99	Other Labourers and Related Workers	I/II	PT	2 460
79	Other Intermediate Production and Transport Workers	I/II	FT	2 280
99	Other Labourers and Related Workers	III	FT	2 230
92	Factory Labourers	I/II	PT	2 080
11	Generalist Managers	IV +	FT	1 970
61	Intermediate Clerical Workers	IV +	FT	1 800
83	Elementary Service Workers	III	FT	1 800
59	Other Advanced Clerical and Service Workers	III	PT	1 570
61	Intermediate Clerical Workers	I/II	PT	1 540
91	Cleaners	I/II	PT	1 510
63	Intermediate Service Workers	IV +	FT	1 450
32	Business and Administration Associate Professionals	III	PT	1 270
33	Managing Supervisors (Sales and Service)	III	PT	1 220
82	Elementary Sales Workers	III	PT	1 080
91	Cleaners	III	FT	1 040
62	Intermediate Sales and Related Workers	IV +	FT	1 020
79	Other Intermediate Production and Transport Workers	III	PT	890
32	Business and Administration Associate Professionals	IV +	PT	810
72	Intermediate Machine Operators	I/II	FT	810
73	Road and Rail Transport Drivers	III	PT	730
73	Road and Rail Transport Drivers	I/II	FT	730
39	Other Associate Professionals	III	FT	670
92	Factory Labourers	III	PT	660
81	Elementary Clerks	III	FT	650
49	Other Tradespersons and Related Workers	I/II	FT	570
91	Cleaners	I/II	FT	560
81	Elementary Clerks	III	PT	480
79	Other Intermediate Production and Transport Workers	IV +	FT	470
83	Elementary Service Workers	I/II	PT	470
41	Mechanical and Fabrication Engineering Tradespersons	IV +	FT	460
45	Food Tradespersons	III	PT	450
61	Intermediate Clerical Workers	IV +	PT	410
49	Other Tradespersons and Related Workers	III	PT	400
79	Other Intermediate Production and Transport Workers	I/II	PT	400
31	Science, Engineering and Related Associate Professionals	III	FT	390
31	Science, Engineering and Related Associate Professionals	I/II	FT	370
33	Managing Supervisors (Sales and Service)	IV +	PT	340
23	Health Professionals	IV +	PT	300
49	Other Tradespersons and Related Workers	I/II	PT	300
99	Other Labourers and Related Workers	III	PT	280
50	Advanced Clerical and Service Workers – nfd	III	FT	270
34	Health and Welfare Associate Professionals	IV +	FT	250
44	Construction Tradespersons	III	PT	240
40	Tradespersons and Related Workers – nfd	III	FT	230
51	Secretaries and Personal Assistants	IV +	FT	230
25	Social, Arts and Miscellaneous Professionals	I/II	PT	230

2 digit code	ASCO sub-major group	AQF	FT/PT	Number
46	Skilled Agricultural and Horticultural Workers	III	PT	220
21	Science, Building and Engineering Professionals	I/II	FT	220
50	Advanced Clerical and Service Workers – nfd	IV +	FT	220
39	Other Associate Professionals	I/II	FT	210
83	Elementary Service Workers	I/II	FT	200
71	Intermediate Plant Operators	I/II	FT	200
73	Road and Rail Transport Drivers	IV +	FT	190
73	Road and Rail Transport Drivers	I/II	PT	190
31	Science, Engineering and Related Associate Professionals	I/II	PT	190
22	Business and Information Professionals	IV +	FT	190
81	Elementary Clerks	I/II	FT	170
13	Farmers and Farm Managers	I/II	FT	170
13	Farmers and Farm Managers	III	FT	170
12	Specialist Managers	IV +	FT	150
32	Business and Administration Associate Professionals	I/II	FT	140
31	Science, Engineering and Related Associate Professionals	IV +	FT	140
39	Other Associate Professionals	III	PT	140
42	Automotive Tradespersons	III	PT	140
46	Skilled Agricultural and Horticultural Workers	IV +	FT	130
91	Cleaners	IV +	FT	130
11	Generalist Managers	IV +	PT	120
24	Education Professionals	III	PT	120
23	Health Professionals	III	FT	120
59	Other Advanced Clerical and Service Workers	IV +	FT	120
13	Farmers and Farm Managers	I/II	PT	120
25	Social, Arts and Miscellaneous Professionals	I/II	FT	120
39	Other Associate Professionals	IV +	FT	110
34	Health and Welfare Associate Professionals	IV +	PT	110
44	Construction Tradespersons	I/II	FT	100
34	Health and Welfare Associate Professionals	III	PT	100
21	Science, Building and Engineering Professionals	III	FT	100
25	Social, Arts and Miscellaneous Professionals	III	FT	100
23	Health Professionals	IV +	FT	100
99	Other Labourers and Related Workers	IV +	FT	90
11	Generalist Managers	III	FT	90
32	Business and Administration Associate Professionals	I/II	PT	80
24	Education Professionals	III	FT	80
41	Mechanical and Fabrication Engineering Tradespersons	III	PT	80
25	Social, Arts and Miscellaneous Professionals	IV +	FT	80
12	Specialist Managers	III	FT	80
49	Other Tradespersons and Related Workers	IV +	FT	80
34	Health and Welfare Associate Professionals	III	FT	70
25	Social, Arts and Miscellaneous Professionals	IV +	PT	70
59	Other Advanced Clerical and Service Workers	I/II	FT	60
45	Food Tradespersons	IV +	FT	60
25	Social, Arts and Miscellaneous Professionals	III	PT	60
45	Food Tradespersons	I/II	FT	60
62	Intermediate Sales and Related Workers	IV +	PT	60
39	Other Associate Professionals	IV +	PT	50

2 digit code	ASCO sub-major group	AQF	FT/PT	Number
43	Electrical and Electronics Tradespersons	I/II	FT	50
39	Other Associate Professionals	I/II	PT	50
23	Health Professionals	III	PT	40
72	Intermediate Machine Operators	III	PT	40
41	Mechanical and Fabrication Engineering Tradespersons	I/II	FT	30
43	Electrical and Electronics Tradespersons	III	PT	30
43	Electrical and Electronics Tradespersons	IV +	FT	30
71	Intermediate Plant Operators	III	PT	30
13	Farmers and Farm Managers	III	PT	30
72	Intermediate Machine Operators	I/II	PT	30
81	Elementary Clerks	I/II	PT	30
22	Business and Information Professionals	III	PT	30
51	Secretaries and Personal Assistants	IV +	PT	30
22	Business and Information Professionals	III	FT	30
59	Other Advanced Clerical and Service Workers	IV +	PT	30
72	Intermediate Machine Operators	IV +	FT	30
22	Business and Information Professionals	IV +	PT	30
41	Mechanical and Fabrication Engineering Tradespersons	I/II	PT	20
45	Food Tradespersons	I/II	PT	20
31	Science, Engineering and Related Associate Professionals	III	PT	20
91	Cleaners	IV +	PT	20
21	Science, Building and Engineering Professionals	I/II	PT	20
51	Secretaries and Personal Assistants	III	FT	20
59	Other Advanced Clerical and Service Workers	I/II	PT	20
12	Specialist Managers	IV +	PT	20
13	Farmers and Farm Managers	IV +	FT	20
21	Science, Building and Engineering Professionals	IV +	FT	20
49	Other Tradespersons and Related Workers	IV +	PT	10
12	Specialist Managers	III	PT	10
42	Automotive Tradespersons	I/II	FT	10
46	Skilled Agricultural and Horticultural Workers	I/II	FT	10
40	Tradespersons and Related Workers – nfd	IV +	FT	10
50	Advanced Clerical and Service Workers – nfd	IV +	PT	10
43	Electrical and Electronics Tradespersons	I/II	PT	(a)
92	Factory Labourers	IV +	FT	(a)
46	Skilled Agricultural and Horticultural Workers	IV +	PT	(a)
83	Elementary Service Workers	IV +	FT	(a)
12	Specialist Managers	I/II	FT	(a)
46	Skilled Agricultural and Horticultural Workers	I/II	PT	(a)
42	Automotive Tradespersons	I/II	PT	(a)
45	Food Tradespersons	IV +	PT	(a)
71	Intermediate Plant Operators	I/II	PT	(a)
99	Other Labourers and Related Workers	IV +	PT	(a)
11	Generalist Managers	I/II	PT	(a)
31	Science, Engineering and Related Associate Professionals	IV +	PT	(a)
44	Construction Tradespersons	I/II	PT	(a)
50	Advanced Clerical and Service Workers – nfd	III	PT	(a)
51	Secretaries and Personal Assistants	III	PT	(a)
10	Managers and Administrators	IV +	FT	(a)

2 digit code	ASCO sub-major group	AQF	FT/PT	Number
33	Managing Supervisors (Sales and Service)	I/II	PT	(a)
82	Elementary Sales Workers	IV +	FT	(a)
33	Managing Supervisors (Sales and Service)	I/II	FT	(a)
71	Intermediate Plant Operators	IV +	FT	(a)
79	Other Intermediate Production and Transport Workers	IV +	PT	(a)
12	Specialist Managers	I/II	PT	(a)
23	Health Professionals	I/II	PT	(a)
50	Advanced Clerical and Service Workers – nfd	I/II	FT	(a)

Notes: (a) represents figures 1 to 9 inclusive.

nfd – not further defined.

Excludes those combinations of occupation x AQF level x full-time/part-time status where there were no commencements in 2003.



## Appendix 2

### Distribution of demographic groups across training packages, commencements, 2003

	Males			Females			All
	Under 25	25–44	45+	Under 25	25–44	45+	
BSB - Business Services	3 040	5 970	2 300	13 580	10 370	5 450	40 720
WRR - Retail	11 190	3 110	700	18 540	5 360	1 710	40 600
TDT - Transport and Distribution	3 830	12 610	6 100	580	2 000	1 110	26 220
THH - Hospitality	7 120	1 740	360	8 250	2 840	1 090	21 400
CHC - Community Services	400	840	450	4 360	4 400	2 540	12 990
AUR - Automotive Industry Retail, Service and Repair	10 180	1 720	310	400	240	40	12 890
BCG - General Construction	9 280	870	50	110	20	0	10 330
ICT - Telecommunications	1 680	1 670	270	2 430	2 690	730	9 470
MEM - Metal and Engineering Industry	7 450	1 430	220	140	110	60	9 410
MTM - Australian Meat Industry	3 960	2 250	450	650	770	180	8 270
PRM - Asset Maintenance	700	1 920	1 120	330	1 820	1 430	7 320
FDF - Food Processing Industry	2 230	1 640	480	650	1 090	430	6 520
UTE - Electrotechnology Industry	5 270	750	40	60	20	0	6 140
ICA - Information Technology	1 140	1 010	500	530	1 410	1 000	5 590
RUH - Horticulture	2 690	890	220	420	320	130	4 660
WRH - Hairdressing	340	30	(a)	4 000	200	30	4 590
FNB - Financial Services	510	470	140	1 220	1 460	430	4 230
PRS - Asset Security	1 220	1 810	490	240	320	60	4 140
PMB - Plastics, Rubber and Cablemaking	420	1 600	710	70	370	230	3 400
AUM - Automotive Industry Manufacturing	980	860	80	70	180	20	2 180
RUA - Agriculture	1 360	240	60	310	60	(a)	2 030
BCC - Civil Construction	430	830	320	(a)	10	(a)	1 610
FPI - Forest and Forest Products Industry	520	730	180	50	100	40	1 600
LMT - Textiles, Clothing and Footwear	210	410	140	150	380	260	1 550
PRD - Property Development and Management	300	140	30	470	250	60	1 240
HLT - Health	60	110	50	600	240	130	1 190
SRO - National Outdoor Recreation Industry	580	80	10	390	100	20	1 190
WRP - Community Pharmacy	20	(a)	(a)	840	240	60	1 170
THT - Tourism	130	140	(a)	370	330	30	990
PSP - National Public Services	80	220	80	130	330	120	960
BCF - Off-site Construction	890	40	0	30	0	0	960
ICP - Printing and Graphic Arts	530	230	50	110	40	(a)	960
SFI - Seafood Industry	260	230	50	50	50	20	670

	Males			Females			All
	Under 25	25–44	45+	Under 25	25–44	45+	
CSC - Correctional Services	50	270	70	20	110	30	540
PMC - Manufactured Mineral Products	50	310	140	(a)	(a)	(a)	510
LMF - Furnishing Industry	450	30	(a)	20	(a)	(a)	510
MEA - Aeroskills	350	100	30	20	(a)	0	500
WRB - National Beauty	(a)	(a)	0	420	70	(a)	500
BSA - Administration (superseded by BSB)	30	(a)	(a)	340	40	(a)	420
MNM - Metalliferous Mining	80	210	60	10	20	(a)	380
RUV - Veterinary Nursing	20	(a)	0	250	100	(a)	360
SRF - National Fitness Industry	90	60	(a)	90	90	10	350
RTF - Amenity Horticulture	180	80	20	20	20	20	330
CUL - Museum and Library/Information Services	20	10	(a)	90	100	70	280
RGR - Racing Industry	120	20	0	100	20	(a)	260
UTT - Electricity Supply Industry - Transmission and Distribution	170	80	(a)	(a)	0	0	250
RTE - Rural Production	100	40	10	30	40	20	240
LGA - Local Government	50	50	20	50	50	30	240
SRC - National Community Recreation Industry	90	20	0	80	20	(a)	210
NWP - Water Industry	100	60	40	(a)	0	0	200
PMA - Chemical, Hydrocarbons and Oil Refining	30	110	40	(a)	(a)	(a)	200
RTD - Conservation and Land Management	80	60	(a)	30	20	0	190
WRF - Floristry	(a)	(a)	0	160	20	(a)	190
SRS - National Sport Industry	100	30	(a)	20	(a)	0	150
THC - Caravan Industry	70	30	(a)	20	(a)	(a)	140
MNQ - Extractive Industry	20	70	30	0	(a)	0	120
PML - Laboratory Operations	30	30	(a)	20	30	(a)	120
CUF - Film, TV, Radio and Multimedia	50	10	(a)	40	(a)	0	110
CUE - Entertainment Industry	60	(a)	(a)	20	(a)	(a)	100
WRW - Wholesale	20	40	20	(a)	20	(a)	100
TDM - Maritime	50	20	(a)	(a)	(a)	(a)	80
MNC - Black Coal	20	20	40	(a)	(a)	0	80
UTG - Gas Industry	40	20	(a)	(a)	0	0	70
DRT - Drilling Industry	(a)	30	(a)	(a)	0	0	30
BSZ - Assessment and Workplace Training	0	(a)	10	(a)	(a)	0	20
FPP - Pulp and Paper Manufacturing Industries	(a)	10	(a)	0	0	0	20
UTW - Water Industry (superseded by NWP01)	(a)	(a)	(a)	0	0	0	20
UTL - Lifts Industry	10	(a)	0	0	0	0	10
WFS - Funeral Services	(a)	(a)	0	(a)	(a)	0	(a)
CUS - Music	(a)	0	0	0	0	0	(a)
BCP - Plumbing and Services	0	0	0	0	0	0	0
FNA - Finance (superseded by Financial Services TP - FNB99)	0	0	0	0	0	0	0
UTP - Electricity Supply Industry - Generation	0	0	0	0	0	0	0
Training Package*	82 270	49 020	16 600	62 650	39 460	17 710	267 700
Non-training Package	7 150	1 290	150	1 130	1 520	920	12 170
Training Package	89 420	50 310	16 750	63 780	40 980	18 630	279 870

Notes: (a) represents figures 1 to 9 inclusive.

\* Total includes enterprise training packages.

# Appendix 3

## Description of top 15 ASCO codes (2 digit)

ASCO sub-major group		Component jobs
61	Intermediate Clerical Workers	Produce documents, record information, operate office equipment and perform associated office duties.
44	Construction Tradespersons	Construct and repair buildings and other structures, provide plumbing, drainage and mechanical services, and apply final finishes such as painting and flooring.
63	Intermediate Service Workers	Provide basic child care and other services to individuals for the enhancement of their education, health, welfare and comfort, and provide services to patrons of hotels, restaurants and similar establishments.
79	Other Intermediate Production and Transport Workers	This sub-major group covers Other Intermediate Production and Transport Workers not elsewhere classified. It includes Intermediate Mining and Construction Workers, and Miscellaneous Intermediate Production and Transport Workers.
62	Intermediate Sales and Related Workers	Sell services to businesses and goods to retail and wholesale establishments, sell motor vehicles and motor vehicle accessories or supervise and coordinate staff in retail establishments.
92	Factory Labourers	Perform routine tasks in product assembly or in the processing and packaging of food and other manufactured products, usually working under close supervision.
42	Automotive Tradespersons	Repair and maintain motor vehicle engines, electrical and electronic systems and bodies, paint vehicles, construct specialised vehicle bodies, and fit or replace interior trim and upholstery in vehicles.
49	Other Tradespersons and Related Workers	This sub-major group covers Tradespersons and Related Workers not elsewhere classified. It includes :Printing Tradespersons; Wood Tradespersons; Hairdressers; Textile, Clothing and related tradespersons; and Miscellaneous tradespersons and related workers.
32	Business and Administration Associate Professionals	Manage and administer the operational activities of an office or financial institution; provide financial advice to clients; plan and undertake administration of special projects or organisational programs or support services; and provide support to computing professionals.
45	Food Tradespersons	Perform the more complex tasks at various stages of food preparation, applying technical expertise and knowledge of the properties of food.
73	Road and Rail Transport Drivers	Drive trucks, buses, trams, cars and trains to transport passengers and goods.
43	Electrical and Electronics Tradespersons	Assemble, install, test and repair electrical and electronic systems and equipment, telecommunications and transmission equipment, refrigeration and air-conditioning equipment, and electrical distribution networks. Automotive Electricians are excluded from this sub-major group. They are included in sub-major group 42, Automotive Tradespersons.

Source: ABS Australian Standard Classification of Occupations, 2<sup>nd</sup> edition, cat .no.1220.0, 1997

## Appendix 4

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### Decomposition of differences in proportions working full-time between groups

We look at the difference in the proportion of group  $i$  working full-time and the overall proportion working full-time.

Define the proportion working full-time for the group  $p_i$ , and the overall proportion  $p$ .

Define the distribution of occupations for group  $i$  as  $q_{ij}$ . That is  $q_{ij}$  of the  $i^{th}$  group is in occupation  $j$ . Similarly,  $q_j$  is the proportion overall in occupation  $j$ . Define the conditional probabilities for group  $i$   $\pi_{ij}$ .

That is,  $\pi_{ij}$  is the probability that an individual from group  $i$  working in occupation  $j$  is full-time.

We are interested in explaining the difference between  $p_i$  and  $p$ .

First, note that we can write  $p_i = \sum_j \pi_{ij} q_{ij}$  and  $p = \sum_j \pi_j q_j$

$$\begin{aligned} \text{Then } [p_i - p] &= \sum_j \pi_{ij} q_{ij} - \sum_j \pi_j q_j \\ &= \sum_j (\pi_{ij} - \pi_j) q_{ij} + \sum_j \pi_j q_{ij} - \sum_j \pi_j q_j \\ &= \sum_j (\pi_{ij} - \pi_j) q_{ij} + \sum_j \pi_j (q_{ij} - q_j) \end{aligned} \quad (1)$$

The first term describes the propensity, relative to the whole population, of group  $i$  to be full-time. The second term represents the extent to which group  $i$  works full-time of the occupations in which its members work.

We can, of course, also write  $p_i - p$

$$= \sum_j (\pi_{ij} - \pi_j) q_j + \sum_j \pi_j (q_{ij} - q_j) \quad (2)$$

The difference between (1) and (2) is the weights used to aggregate across occupations. Thus a third possibility would be to take an average of (1) and (2).

## Appendix 5

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Age and sex shares of apprenticeships/traineeships, 2003 (%)

ASCO sub-major group				Male			Female			All
		Qualification	FT/PT	Under 25	25–44	45+	Under 25	25–44	45+	
61	Intermediate Clerical Workers	III	FT	9.4	12.6	5.4	39.0	22.1	11.5	100.0
44	Construction Tradespersons	III	FT	90.5	8.0	0.3	1.0	0.2	0.0	100.0
63	Intermediate Service Workers	III	PT	12.0	6.6	2.7	32.0	30.1	16.6	100.0
79	Other Intermediate Production and Transport Workers	III	FT	18.4	46.0	18.3	2.3	9.4	5.6	100.0
62	Intermediate Sales and Related Workers	III	FT	23.0	19.4	5.0	28.8	17.7	6.1	100.0
63	Intermediate Service Workers	III	FT	15.7	11.5	2.7	39.0	21.6	9.5	100.0
92	Factory Labourers	I/II	FT	47.1	28.8	4.7	7.3	9.9	2.2	100.0
42	Automotive Tradespersons	III	FT	92.0	5.9	0.3	1.5	0.2	0.0	100.0
62	Intermediate Sales and Related Workers	III	PT	23.6	3.8	1.2	45.3	18.9	7.3	100.0
62	Intermediate Sales and Related Workers	I/II	PT	32.1	2.4	0.6	56.1	7.3	1.6	100.0
49	Other Tradespersons and Related Workers	III	FT	38.8	6.6	1.4	49.2	3.2	0.7	100.0
32	Business and Administration Associate Professionals	IV +	FT	12.2	31.1	9.0	12.5	25.4	9.8	100.0
45	Food Tradespersons	III	FT	64.3	11.8	1.7	18.5	3.1	0.6	100.0
73	Road and Rail Transport Drivers	III	FT	7.0	58.2	30.9	0.5	2.4	1.0	100.0
43	Electrical and Electronics Tradespersons	III	FT	84.7	13.3	0.6	1.2	0.4	0.0	100.0
82	Elementary Sales Workers	I/II	PT	32.3	2.2	0.5	55.6	7.7	1.7	100.0
41	Mechanical and Fabrication Engineering Tradespersons	III	FT	81.0	14.5	2.0	1.2	0.8	0.5	100.0
61	Intermediate Clerical Workers	III	PT	6.5	5.1	1.7	20.0	41.3	25.4	100.0
32	Business and Administration Associate Professionals	III	FT	15.3	21.4	10.0	16.0	23.4	13.8	100.0
62	Intermediate Sales and Related Workers	I/II	FT	34.7	10.0	1.6	44.4	8.0	1.3	100.0
61	Intermediate Clerical Workers	I/II	FT	13.1	2.7	0.6	74.7	7.5	1.4	100.0
63	Intermediate Service Workers	I/II	PT	28.8	4.2	0.5	52.8	10.6	3.0	100.0
82	Elementary Sales Workers	I/II	FT	29.4	8.1	0.7	50.2	10.2	1.5	100.0
99	Other Labourers and Related Workers	I/II	FT	69.4	15.9	2.4	9.7	2.2	0.5	100.0
92	Factory Labourers	III	FT	14.0	40.1	14.4	4.2	18.9	8.3	100.0
82	Elementary Sales Workers	III	FT	25.6	25.2	6.1	21.6	16.3	5.3	100.0
91	Cleaners	III	PT	6.1	16.9	13.3	5.1	31.0	27.7	100.0
33	Managing Supervisors (Sales and Service)	III	FT	6.7	18.2	8.0	21.9	28.4	16.7	100.0
63	Intermediate Service Workers	I/II	FT	31.7	10.8	2.0	44.7	9.0	1.8	100.0
72	Intermediate Machine Operators	III	FT	12.1	50.9	21.8	2.0	7.9	5.4	100.0
59	Other Advanced Clerical and Service Workers	III	FT	13.0	11.9	4.0	36.0	26.1	9.1	100.0

ASCO sub-major group				Male			Female			All
		Qualification	FT/PT	Under 25	25–44	45+	Under 25	25–44	45+	
46	Skilled Agricultural and Horticultural Workers	III	FT	61.6	21.0	4.3	7.9	4.2	0.9	100.0
33	Managing Supervisors (Sales and Service)	IV +	FT	11.5	23.9	4.3	16.1	35.7	8.5	100.0
71	Intermediate Plant Operators	III	FT	13.7	54.6	30.8	0.2	0.4	0.2	100.0
63	Intermediate Service Workers	IV +	PT	3.1	8.6	4.6	12.9	40.8	29.9	100.0
83	Elementary Service Workers	III	PT	28.6	39.2	11.4	6.3	9.9	4.6	100.0
99	Other Labourers and Related Workers	I/II	PT	65.7	5.9	1.5	17.2	6.0	3.7	100.0
79	Other Intermediate Production and Transport Workers	I/II	FT	61.9	25.0	5.0	4.0	3.5	0.7	100.0
99	Other Labourers and Related Workers	III	FT	17.4	48.5	24.9	4.1	3.5	1.5	100.0
92	Factory Labourers	I/II	PT	42.8	25.0	5.1	10.0	13.9	3.1	100.0
11	Generalist Managers	IV +	FT	5.0	44.6	12.7	6.6	23.5	7.6	100.0
61	Intermediate Clerical Workers	IV +	FT	4.3	16.2	7.1	17.3	38.0	17.1	100.0
83	Elementary Service Workers	III	FT	16.6	42.9	13.2	5.5	14.9	7.0	100.0
59	Other Advanced Clerical and Service Workers	III	PT	11.2	7.7	1.0	25.8	43.8	10.6	100.0
61	Intermediate Clerical Workers	I/II	PT	16.3	2.6	0.5	66.5	11.5	2.7	100.0
91	Cleaners	I/II	PT	12.3	25.5	10.7	6.8	29.7	14.9	100.0
63	Intermediate Service Workers	IV +	FT	4.8	13.0	5.5	37.8	25.9	13.1	100.0
32	Business and Administration Associate Professionals	III	PT	14.6	4.2	2.6	14.1	37.4	27.2	100.0
33	Managing Supervisors (Sales and Service)	III	PT	4.5	4.2	2.0	8.4	46.6	34.3	100.0
82	Elementary Sales Workers	III	PT	17.6	6.4	2.1	38.0	26.7	9.2	100.0
91	Cleaners	III	FT	8.2	35.3	24.2	1.4	15.7	15.1	100.0
62	Intermediate Sales and Related Workers	IV +	FT	11.1	36.5	6.0	16.8	24.5	5.0	100.0
79	Other Intermediate Production and Transport Workers	III	PT	18.0	34.4	10.6	6.3	18.4	12.4	100.0
32	Business and Administration Associate Professionals	IV +	PT	7.9	6.8	3.4	11.8	49.1	21.2	100.0
72	Intermediate Machine Operators	I/II	FT	27.2	35.5	6.2	7.8	15.5	7.8	100.0
73	Road and Rail Transport Drivers	III	PT	7.5	32.7	42.2	2.9	9.5	5.2	100.0
73	Road and Rail Transport Drivers	I/II	FT	13.3	60.0	21.6	1.1	3.2	0.8	100.0
39	Other Associate Professionals	III	FT	32.4	28.1	1.5	25.5	11.0	1.7	100.0
92	Factory Labourers	III	PT	13.3	22.9	7.1	10.5	30.2	16.1	100.0
81	Elementary Clerks	III	FT	11.8	17.4	3.4	28.6	32.6	6.3	100.0
49	Other Tradespersons and Related Workers	I/II	FT	66.5	14.5	2.6	12.9	2.6	0.9	100.0
91	Cleaners	I/II	FT	35.4	27.5	12.2	3.8	13.4	7.7	100.0

ASCO sub-major group				Male			Female			All
		Qualification	FT/PT	Under 25	25–44	45+	Under 25	25–44	45+	
81	Elementary Clerks	III	PT	9.8	8.5	3.1	23.1	37.0	18.5	100.0
79	Other Intermediate Production and Transport Workers	IV +	FT	3.8	48.4	26.1	2.1	13.0	6.8	100.0
83	Elementary Service Workers	I/II	PT	32.7	32.3	9.0	13.5	9.9	3.0	100.0
41	Mechanical and Fabrication Engineering Tradespersons	IV +	FT	67.6	22.7	6.3	2.4	0.9	0.0	100.0
45	Food Tradespersons	III	PT	36.4	24.6	10.3	13.8	10.5	4.5	100.0
61	Intermediate Clerical Workers	IV +	PT	1.0	2.4	1.0	9.0	61.5	25.2	100.0
49	Other Tradespersons and Related Workers	III	PT	19.3	2.5	0.5	60.4	13.6	3.7	100.0
79	Other Intermediate Production and Transport Workers	I/II	PT	59.5	18.2	2.7	8.2	9.0	2.5	100.0
31	Science, Engineering and Related Associate Professionals	III	FT	42.2	31.9	3.6	8.2	11.6	2.3	100.0
31	Science, Engineering and Related Associate Professionals	I/II	FT	82.9	10.3	1.6	1.4	2.7	1.1	100.0
33	Managing Supervisors (Sales and Service)	IV +	PT	14.7	10.3	2.9	25.4	36.0	10.9	100.0
23	Health Professionals	IV +	PT	4.0	6.7	1.3	35.0	41.7	11.3	100.0
49	Other Tradespersons and Related Workers	I/II	PT	27.8	1.0	0.7	61.5	6.7	2.3	100.0
99	Other Labourers and Related Workers	III	PT	21.0	41.3	16.0	7.8	10.7	3.2	100.0
50	Advanced Clerical and Service Workers – nfd	III	FT	13.5	40.9	13.5	11.7	13.5	6.9	100.0
34	Health and Welfare Associate Professionals	IV +	FT	9.1	5.6	2.8	46.0	32.5	3.6	100.0
44	Construction Tradespersons	III	PT	92.4	5.9	0.0	1.3	0.4	0.0	100.0
40	Tradespersons and Related Workers – nfd	III	FT	36.2	39.7	10.0	1.3	7.9	4.8	100.0
51	Secretaries and Personal Assistants	IV +	FT	6.1	7.0	3.5	41.7	30.7	11.0	100.0
25	Social, Arts and Miscellaneous Professionals	I/II	PT	56.0	1.3	0.0	37.3	3.6	1.8	100.0
46	Skilled Agricultural and Horticultural Workers	III	PT	30.2	18.9	8.6	9.5	21.6	12.2	100.0
21	Science, Building and Engineering Professionals	I/II	FT	54.5	25.0	2.7	11.8	5.5	0.0	100.0
50	Advanced Clerical and Service Workers – nfd	IV +	FT	7.3	27.4	8.7	10.5	32.4	13.7	100.0
39	Other Associate Professionals	I/II	FT	51.2	20.2	0.0	18.8	9.9	0.5	100.0
83	Elementary Service Workers	I/II	FT	43.8	33.0	3.9	12.3	5.4	1.0	100.0
71	Intermediate Plant Operators	I/II	FT	76.9	18.1	1.0	1.5	2.0	0.0	100.0
73	Road and Rail Transport Drivers	IV +	FT	6.7	63.2	19.7	1.0	6.7	2.6	100.0
73	Road and Rail Transport Drivers	I/II	PT	16.2	45.5	12.0	4.7	15.2	5.8	100.0
31	Science, Engineering and Related Associate Professionals	I/II	PT	91.4	3.2	2.7	2.1	0.0	0.5	100.0



ASCO sub-major group				Male			Female			All
		Qualification	FT/PT	Under 25	25–44	45+	Under 25	25–44	45+	
22	Business and Information Professionals	IV +	FT	25.9	29.7	9.7	12.4	18.9	3.8	100.0
81	Elementary Clerks	I/II	FT	6.9	1.1	0.6	90.2	1.1	0.0	100.0
13	Farmers and Farm Managers	I/II	FT	72.4	5.3	1.8	18.8	0.6	0.6	100.0
13	Farmers and Farm Managers	III	FT	55.4	18.7	6.6	13.3	4.8	1.2	100.0
12	Specialist Managers	IV +	FT	7.4	18.2	4.1	14.2	46.6	9.5	100.0
32	Business and Administration Associate Professionals	I/II	FT	39.0	14.2	0.7	32.6	9.9	2.8	100.0
31	Science, Engineering and Related Associate Professionals	IV +	FT	56.4	27.9	3.6	5.0	3.6	2.9	100.0
39	Other Associate Professionals	III	PT	21.7	8.7	2.9	34.8	27.5	4.3	100.0
42	Automotive Tradespersons	III	PT	89.0	8.1	0.7	2.2	0.0	0.0	100.0
46	Skilled Agricultural and Horticultural Workers	IV +	FT	51.9	22.6	6.8	10.5	7.5	0.0	100.0
91	Cleaners	IV +	FT	3.1	33.1	25.2	0.0	17.3	20.5	100.0
11	Generalist Managers	IV +	PT	3.2	8.1	2.4	17.7	53.2	15.3	100.0
24	Education Professionals	III	PT	8.1	6.5	2.4	11.3	60.5	11.3	100.0
23	Health Professionals	III	FT	2.5	3.3	0.8	75.2	15.7	1.7	100.0
59	Other Advanced Clerical and Service Workers	IV +	FT	5.9	7.6	4.2	29.4	39.5	12.6	100.0
13	Farmers and Farm Managers	I/II	PT	51.7	4.2	3.4	28.0	9.3	3.4	100.0
25	Social, Arts and Miscellaneous Professionals	I/II	FT	63.6	9.3	0.8	21.2	5.1	0.0	100.0
39	Other Associate Professionals	IV +	FT	49.1	11.8	2.7	30.9	6.4	0.0	100.0
34	Health and Welfare Associate Professionals	IV +	PT	0.9	1.9	0.0	41.7	44.4	11.1	100.0
44	Construction Tradespersons	I/II	FT	78.6	18.4	1.9	1.0	0.0	1.0	100.0
34	Health and Welfare Associate Professionals	III	PT	5.9	5.9	3.0	32.7	35.6	17.8	100.0
21	Science, Building and Engineering Professionals	III	FT	69.0	12.0	3.0	13.0	3.0	0.0	100.0
25	Social, Arts and Miscellaneous Professionals	III	FT	19.0	23.0	14.0	29.0	13.0	3.0	100.0
23	Health Professionals	IV +	FT	12.4	10.3	1.0	54.6	19.6	1.0	100.0
99	Other Labourers and Related Workers	IV +	FT	6.6	67.0	19.8	1.1	3.3	1.1	100.0
11	Generalist Managers	III	FT	15.9	43.2	15.9	2.3	9.1	12.5	100.0
32	Business and Administration Associate Professionals	I/II	PT	75.3	2.5	0.0	7.4	8.6	6.2	100.0
24	Education Professionals	III	FT	17.5	10.0	2.5	38.8	20.0	10.0	100.0
41	Mechanical and Fabrication Engineering Tradespersons	III	PT	72.2	20.3	5.1	1.3	0.0	1.3	100.0
25	Social, Arts and Miscellaneous Professionals	IV +	FT	14.1	26.9	2.6	11.5	35.9	7.7	100.0
12	Specialist Managers	III	FT	29.9	36.4	5.2	11.7	11.7	3.9	100.0

ASCO sub-major group				Male			Female			All
		Qualification	FT/PT	Under 25	25–44	45+	Under 25	25–44	45+	
49	Other Tradespersons and Related Workers	IV +	FT	17.3	12.0	9.3	30.7	25.3	5.3	100.0
34	Health and Welfare Associate Professionals	III	FT	18.3	9.9	1.4	52.1	16.9	0.0	100.0
25	Social, Arts and Miscellaneous Professionals	IV +	PT	21.7	11.6	2.9	7.2	29.0	26.1	100.0
59	Other Advanced Clerical and Service Workers	I/II	FT	48.4	4.8	0.0	33.9	9.7	1.6	100.0
45	Food Tradespersons	IV +	FT	18.3	53.3	8.3	5.0	11.7	3.3	100.0
25	Social, Arts and Miscellaneous Professionals	III	PT	50.8	3.4	0.0	32.2	10.2	3.4	100.0
45	Food Tradespersons	I/II	FT	83.9	7.1	0.0	5.4	1.8	0.0	100.0
62	Intermediate Sales and Related Workers	IV +	PT	5.4	14.3	3.6	14.3	42.9	19.6	100.0
39	Other Associate Professionals	IV +	PT	31.5	29.6	1.9	14.8	22.2	0.0	100.0
43	Electrical and Electronics Tradespersons	I/II	FT	88.9	9.3	1.9	0.0	0.0	0.0	100.0

Notes: (a) represents figures 1 to 9 inclusive.

nfd – not further defined.

Table excludes groups with less than 50 commencements; also excludes unknown full-time/part-time status.

# Appendix 6

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## Decomposition of growth in apprenticeships within demographic groups

We employ a standard shift-share analysis.

Let  $A_{ij}$  be the number of apprentices and trainees in each demographic group  $i$ , and each apprenticeship/traineeship  $j$  defined by the combination of occupation, qualification level and whether full-time or part-time.

$$\text{Define } A_{i.} = \sum_j A_{ij}$$

$$A_{.j} = \sum_i A_{ij}$$

$$A_{..} = \sum_{i,j} A_{ij}$$

$$\begin{aligned} \text{We write } A_{i.} &= \sum_j \left( \frac{A_{ij}}{A_{.j}} \right) \left( \frac{A_{.j}}{A_{..}} \right) A_{..} \\ &= \sum_j a_{ij} L_j A_{..} \end{aligned}$$

$$\text{where } a_{ij} = A_{ij} / A_{.j} \text{ and } L_j = \left( \frac{A_{.j}}{A_{..}} \right)$$

Where percentage change of  $A_i$  can be approximated (by taking log differentials) by

$$\% \Delta A_i = \sum_j W_{ij} (\% \Delta a_{ij} + \% \Delta L_j + \% \Delta A_{..})$$

$$\text{where } W_{ij} = A_{ij} / A_{i.}$$

We evaluate the percentage changes at the mid-points.

We thus have three effects:

- (1) the share effect =  $\sum_j W_{ij} \% \Delta a_{ij}$  which can be interpreted as the growth in numbers in the  $i^{th}$  group attributed to a change in the share of that group within particular apprenticeships/trainees
- (2) the structural effect =  $\sum_j W_{ij} \% \Delta L_j$  which can be interpreted as the growth in numbers of the various apprenticeships and traineeships attributed to the change in the share held by individual apprenticeships and traineeships
- (3) the growth effect =  $\% \Delta A_{..}$  which can be interpreted as the growth in numbers for the group attributed to the overall growth in apprenticeships and traineeships.

In practice, this formula is an approximation. When changes are large there usually is substantial residual. It should also be noted that the decomposition is an accounting identity and does not imply causality. However, it provides a useful description of the data.

# Appendix 7

## Individual apprenticeships and traineeships by percentage of total, 1997 and 2003

ASCO sub-major group	Qualification	1997	2003	1997 (% share)	2003 (% share)
62 Intermediate Sales and Related Workers	Cert III	90	18 570	0.1	6.6
82 Elementary Sales Workers	Cert I/II	10 030	10 890	8.9	3.9
79 Other Intermediate Production and Transport Workers	Cert III	190	12 310	0.2	4.4
62 Intermediate Sales and Related Workers	Cert I/II	9 660	12 720	8.5	4.5
61 Intermediate Clerical Workers	Cert I/II	6 380	6 090	5.6	2.2
61 Intermediate Clerical Workers	Cert III	5 930	23 730	5.2	8.5
41 Mechanical and Fabrication Engineering Tradespersons	Cert III	5 930	6 280	5.2	2.2
73 Road and Rail Transport Drivers	Cert III	50	8 020	0.0	2.9
92 Factory Labourers	Cert I/II	7 210	10 580	6.4	3.8
45 Food Tradespersons	Cert III	6 150	8 010	5.4	2.9
99 Other Labourers and Related Workers	Cert I/II	5 520	6 690	4.8	2.4
32 Business and Administration Associate Professionals	Cert IV+	1 070	8 500	0.9	3.0
43 Electrical and Electronics Tradespersons	Cert III	5 080	6 810	4.5	2.4
49 Other Tradespersons and Related Workers	Cert III	5 470	8 270	4.8	3.0
42 Automotive Tradespersons	Cert III	5 490	8 440	4.9	3.0
63 Intermediate Service Workers	Cert III	7 650	23 720	6.8	8.5
33 Managing Supervisors (Sales and Service)	Cert III	0	4 670	0.0	1.7
59 Other Advanced Clerical and Service Workers	Cert III	60	4 790	0.1	1.7
82 Elementary Sales Workers	Cert III	160	4 850	0.1	1.7
91 Cleaners	Cert III	60	4 580	0.1	1.6
44 Construction Tradespersons	Cert III	7 780	14 810	6.9	5.3
83 Elementary Service Workers	Cert III	40	4 380	0.0	1.6
63 Intermediate Service Workers	Cert I/II	4 860	7 770	4.3	2.8
42 Automotive Tradespersons	Cert I/II	1 540	20	1.4	0.0
63 Intermediate Service Workers	Cert IV+	170	4 110	0.2	1.5
32 Business and Administration Associate Professionals	Cert III	1 040	6 140	0.9	2.2
72 Intermediate Machine Operators	Cert III	70	3 400	0.1	1.2
33 Managing Supervisors (Sales and Service)	Cert IV+	0	3 190	0.0	1.1
92 Factory Labourers	Cert III	850	4 790	0.7	1.7
71 Intermediate Plant Operators	Cert III	80	2 730	0.1	1.0
32 Business and Administration Associate Professionals	Cert I/II	1 090	220	1.0	0.1
61 Intermediate Clerical Workers	Cert IV+	10	2 210	0.0	0.8
11 Generalist Managers	Cert IV+	0	2 090	0.0	0.7

ASCO sub-major group		Qualification	1997	2003	1997 (% share)	2003 (% share)
12	Specialist Managers	Cert I/II	820	(a)	0.7	0.0
79	Other Intermediate Production and Transport Workers	Cert I/II	1 890	2 690	1.7	1.0
31	Science, Engineering and Related Associate Professionals	Cert I/II	1 010	560	0.9	0.2
99	Other Labourers and Related Workers	Cert III	250	2 520	0.2	0.9
49	Other Tradespersons and Related Workers	Cert I/II	1 050	920	0.9	0.3
91	Cleaners	Cert I/II	200	2 130	0.2	0.8
12	Specialist Managers	Cert III	610	90	0.5	0.0
23	Health Professionals	Cert I/II	570	(a)	0.5	0.0
81	Elementary Clerks	Cert III	(a)	1 140	0.0	0.4
21	Science, Building and Engineering Professionals	Cert I/II	550	240	0.5	0.1
31	Science, Engineering and Related Associate Professionals	Cert III	610	410	0.5	0.1
62	Intermediate Sales and Related Workers	Cert IV+	0	1 080	0.0	0.4
13	Farmers and Farm Managers	Cert I/II	430	290	0.4	0.1
45	Food Tradespersons	Cert I/II	330	80	0.3	0.0
46	Skilled Agricultural and Horticultural Workers	Cert III	980	3 130	0.9	1.1
81	Elementary Clerks	Cert I/II	360	200	0.3	0.1
31	Science, Engineering and Related Associate Professionals	Cert IV+	330	140	0.3	0.1
79	Other Intermediate Production and Transport Workers	Cert IV+	(a)	470	0.0	0.2
41	Mechanical and Fabrication Engineering Tradespersons	Cert IV+	(a)	460	0.0	0.2
83	Elementary Service Workers	Cert I/II	90	670	0.1	0.2
59	Other Advanced Clerical and Service Workers	Cert I/II	210	80	0.2	0.0
43	Electrical and Electronics Tradespersons	Cert I/II	190	60	0.2	0.0
71	Intermediate Plant Operators	Cert I/II	240	200	0.2	0.1
44	Construction Tradespersons	Cert I/II	190	110	0.2	0.0
39	Other Associate Professionals	Cert I/II	240	260	0.2	0.1
34	Health and Welfare Associate Professionals	Cert IV+	10	360	0.0	0.1
41	Mechanical and Fabrication Engineering Tradespersons	Cert I/II	160	60	0.1	0.0
13	Farmers and Farm Managers	Cert III	210	200	0.2	0.1
25	Social, Arts and Miscellaneous Professionals	Cert I/II	10	340	0.0	0.1
46	Skilled Agricultural and Horticultural Workers	Cert I/II	130	40	0.1	0.0
50	Advanced Clerical and Service Workers – nfd	Cert III	(a)	280	0.0	0.1
51	Secretaries and Personal Assistants	Cert IV+	0	260	0.0	0.1
40	Tradespersons and Related Workers – nfd	Cert III	0	230	0.0	0.1
50	Advanced Clerical and Service Workers – nfd	Cert IV+	0	230	0.0	0.1
72	Intermediate Machine Operators	Cert I/II	430	840	0.4	0.3
23	Health Professionals	Cert IV+	240	400	0.2	0.1
39	Other Associate Professionals	Cert IV+	(a)	170	0.0	0.1
23	Health Professionals	Cert III	0	160	0.0	0.1
12	Specialist Managers	Cert IV+	(a)	160	0.0	0.1
24	Education Professionals	Cert III	20	200	0.0	0.1
25	Social, Arts and Miscellaneous Professionals	Cert IV+	0	150	0.0	0.1
91	Cleaners	Cert IV+	0	150	0.0	0.1
59	Other Advanced Clerical and Service Workers	Cert IV+	0	150	0.0	0.1
22	Business and Information Professionals	Cert IV+	30	210	0.0	0.1
46	Skilled Agricultural and Horticultural Workers	Cert IV+	0	140	0.0	0.1
25	Social, Arts and Miscellaneous Professionals	Cert III	10	160	0.0	0.1
82	Elementary Sales Workers	Cert IV+	40	(a)	0.0	0.0

ASCO sub-major group		Qualification	1997	2003	1997 (% share)	2003 (% share)
21	Science, Building and Engineering Professionals	Cert III	0	100	0.0	0.0
11	Generalist Managers	Cert III	0	90	0.0	0.0
73	Road and Rail Transport Drivers	Cert I/II	410	920	0.4	0.3
39	Other Associate Professionals	Cert III	300	800	0.3	0.3
45	Food Tradespersons	Cert IV+	0	70	0.0	0.0
22	Business and Information Professionals	Cert III	(a)	50	0.0	0.0
22	Business and Information Professionals	Cert I/II	20	0	0.0	0.0
73	Road and Rail Transport Drivers	Cert IV+	100	190	0.1	0.1
43	Electrical and Electronics Tradespersons	Cert IV+	30	30	0.0	0.0
49	Other Tradespersons and Related Workers	Cert IV+	20	90	0.0	0.0
42	Automotive Tradespersons	Cert IV+	10	0	0.0	0.0
72	Intermediate Machine Operators	Cert IV+	0	30	0.0	0.0
51	Secretaries and Personal Assistants	Cert III	0	20	0.0	0.0
34	Health and Welfare Associate Professionals	Cert III	80	170	0.1	0.1
21	Science, Building and Engineering Professionals	Cert IV+	0	20	0.0	0.0
40	Tradespersons and Related Workers – nfd	Cert IV+	(a)	10	0.0	0.0
83	Elementary Service Workers	Cert IV+	0	(a)	0.0	0.0
99	Other Labourers and Related Workers	Cert IV+	40	100	0.0	0.0
33	Managing Supervisors (Sales and Service)	Cert I/II	0	(a)	0.0	0.0
11	Generalist Managers	Cert I/II	0	(a)	0.0	0.0
10	Managers and Administrators – nfd	Cert IV+	0	(a)	0.0	0.0
13	Farmers and Farm Managers	Cert IV+	(a)	20	0.0	0.0
34	Health and Welfare Associate Professionals	Cert I/II	(a)	0	0.0	0.0
71	Intermediate Plant Operators	Cert IV+	0	(a)	0.0	0.0
50	Advanced Clerical and Service Workers – nfd	Cert I/II	0	(a)	0.0	0.0
92	Factory Labourers	Cert IV+	(a)	(a)	0.0	0.0
10	Managers and Administrators – nfd	Cert I/II	0	0	0.0	0.0
10	Managers and Administrators – nfd	Cert III	0	0	0.0	0.0
24	Education Professionals	Cert I/II	0	0	0.0	0.0
24	Education Professionals	Cert IV+	0	0	0.0	0.0
40	Tradespersons and Related Workers – nfd	Cert I/II	0	0	0.0	0.0
44	Construction Tradespersons	Cert IV+	0	0	0.0	0.0
51	Secretaries and Personal Assistants	Cert I/II	0	0	0.0	0.0
81	Elementary Clerks	Cert IV+	0	0	0.0	0.0
<b>Total*</b>			<b>113 180</b>	<b>279 870</b>	<b>100.0</b>	<b>100.0</b>

Notes: (a) represents figures 1 to 9 inclusive.

nfd – not further defined.

\* Total excludes apprenticeships and traineeships at unreported qualification level.



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