An Analysis of Trends and Characteristics of the Older Workforce

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An Analysis of Trends and Characteristics of the Older Workforce

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Workforce Circumstances and Retirement Attitudes
of Older Australians

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1 Summary

This report has been prepared for the Department of Family and Community Services to provide background analysis for the assessment of policy options to encourage employment and self-sufficiency among the older workforce (those aged 50 to retirement age). The main focus is on labour supply issues – with a particular focus on the household situation of older (potential) workers. The research here is intended to complement and provide background information for other FaCS and SPRC research projects which are examining personal attitudes and characteristics in more detail and the views of employers on hiring older workers.

Following the Introduction, Section 3 of the report examines the relationship between employment outcomes and the personal and household characteristics of older workers. This analysis is based upon the series of income and housing surveys conducted by the ABS since the early 1980s. The main findings of this section are

- In the early 1980s, employment rates fell significantly for older men, especially for those aged 55-59. However, employment rates for older men have remained reasonably steady since 1986. Female employment has grown steadily over the period, with the largest growth among women aged 45-54.

- For both men and women, employment rates are generally higher for those with more education. For men, this is particularly the case in the older age groups where the fall in the employment rate with age is greatest for those with less education. For women, the employment rate gap due to education is larger, but is more uniform across age groups.

- Employment rates are also higher for people who own their own home – though the gap between home owners and other tenure types diminishes as age increases. Older home owners have lower employment rates than those still paying mortgages. These results are possibly due to a wealth effect, with renters, and to some extent mortgagees, unable to afford to take early retirement.

- At the same time, however, people who live in less disadvantaged regions are more likely to be employed, and this gap does not decrease before retirement age.

- Marriage shows no clear relationship with employment for women, but men who have never married are less likely to be employed in all age groups.

- Women whose husbands are not employed are much more likely to be not employed themselves. However, this relationship is relatively constant across all age groups, rather than appearing to have a particular association with joint early retirement.

- Australian born people are slightly more likely to be employed than people born overseas are. However, for men this is due to different unemployment rates rather than non-participation rates.

Some of these results, particularly that for housing tenure, suggest some income/wealth effects on labour supply. However, caution is needed as any employment patterns due to such responses are clearly compounded by substantial heterogeneity in other important characteristics such as earning potential.

Section 4 then shows the independent impact of these same factors within a multivariate regression framework. We focus on the most recent survey, 1996-97, and estimate the probability of working across men and women aged 15-64. The dependent variable is the probability of employment and so a logistic regression is estimated. The regression analysis broadly shows the same results as the bivariate analysis of Section 3. The likelihood that a person is employed is associated with their demographic characteristics. For men and women the factors associated with employment are similar. For example, we find that age, education and the socio-economic status of the area are strong predictors of employment status for both men and women. However, the effect of having these characteristics varies in size across the sexes. Education, in particular, has a much larger positive effect on the probability that a female is working, than for a male.

Section 5 turns to look at the income implications for different employment outcomes among the older workforce. In particular, the changing patterns of household income received by people of different ages, and the relative attractiveness of income in and out of employment. The main findings are.

- Households are increasingly reliant upon sources of income other than government transfers or wages and salaries. This is particularly the case for men over 60 and women over 55.

- A much smaller proportion of persons aged 65 years and over in 1996-97 are dependent principally on the government for their household income than in 1986. For men, this proportion has fallen from 75.7 per cent to 64.5 per cent, and for women from 73.1 per cent to 58.1 per cent.

- For older workers, there is no evidence of significant change over time in the average replacement ratio of the gross income available when not employed to the income when employed.

- Not employed older workers have much lower household incomes than employed workers and their housing wealth levels are significantly lower.

Section 6 then turns to look at flows in and out of employment among the older workforce. To what extent does job loss for an older worker translate into permanent non-employment? Do retrenched older workers manage to maintain contact with the labour market? What characteristics of the job or worker are associated with job loss and continued non-employment?

In this section we address these issues using data from the ABS Income Distribution Survey and the ABS 1994 Labour Mobility Survey. Key findings are

- Even though most people not in the labour market remain in this state over a seven month period, there is still significant movement back into employment. For men in their 50s around 7 to 10 per cent move into employment and around 7 per cent into unemployment.

- Flows from full time to part time employment over a seven month period increase as men and women approach retirement age. There is also a relatively large movement from part time to full time employment for men aged 45-54.

- For unemployed men aged 55-59 the probability of exit from the labour force over a seven month period is about the same as the probability of re-employment. For those aged 60-64, about half leave the labour force.

- Over a twelve month period (in 1994), the probability of an employed person being retrenched shows a U-shaped pattern with age. Just under 5 per cent of all workers aged 55 to 64 were retrenched..

- Over the same period, loss of a temporary job was the cause of job loss for 1.8 per cent of 60-64 year olds, and ill health or injury the cause of job loss for 1.9 per cent.

- Of those people who have left a job at some time in the 12 months due to ill-health, only 13 per cent were working at the end of the period.

- For those who were retrenched, almost half were working at the end of the period. However, the employment rate is only 26 per cent for those aged 55-59 and nine per cent for those aged 60-64.

- The likelihood of a person being retrenched is increased by having each of the following characteristics: male, 55 years and over, unmarried, born outside main English speaking countries and being a tradesperson or labourer.

- In addition to the above characteristics, the probability of losing a job is increased through having secondary school education or less.

- Males, people under 55 years of age and those born in a main English speaking country are more likely to be re-employed following job loss.

Section 7 then examines the geographical distribution of older workers employment using data from the 1 per cent sample from the 1996 Census. There is substantial variation in the employment rates of older men and women across the regions of Australia. This, for the most part, follows the pattern of employment patterns for younger workers.

2   Introduction

With the ageing of the 'baby-boom' generation the phenomenon of early workforce withdrawal is becoming increasing important for Australian social policy. This is the case even though employment rates among older men have now stabilised following their fall in the late 70s and early 1980s (and employment rates for women are continuing to rise). In particular, greater numbers of people withdrawing from the labour force can potentially mean greater social expenditures and lower personal living standards in both the short and longer term.

The factors influencing employment among the older workforce are a complex mix of labour supply, labour demand and institutional constraints (see Perry, 2000, for a survey). Labour supply is likely to be influenced by the wealth level of potential retirees (eg housing wealth and superannuation) and the relative income levels available from work and non-work. The relative demand for older versus younger workers is influenced by changing technology and industrial composition, employer views on the productivity of different workers, and norms of social relationships in the workplace. Whilst simple economic theory suggests that wage rates adjust to equilibrate demand and supply, there are strong constraints on this in practice. As well as wage rigidity stemming from industrial bargaining processes there is rigidity deriving from established practices and expectations of responsibility and wage levels for workers of different ages.

This report has been prepared for the Department of Family and Community Services to provide background material for the assessment of policy options in this area. The main focus is on labour supply issues – with a particular focus on the household situation of older workers. Whilst there is already extensive information available on the patterns and trends in employment and unemployment among older workers. Most of this only describes the characteristics of individuals, rather than placing them in the their household and community context. The research here is intended to complement and provide background information for other research projects under way examining personal attitudes and characteristics in more detail (the FaCS customer and non-customer surveys) and the views of employers on hiring older workers (the SPRC survey of employers).

This report examines four related topics:

- the relationship between employment outcomes and the personal and household characteristics of older people;
- the income implications for different employment outcomes of older persons;
- flows in and out of employment for older persons; and,
- the geographical distribution of employment of older people.

In Section 3 we examine the relationship between employment outcomes and the personal and household characteristics of older people. This analysis is based upon the series of income and housing surveys conducted by the ABS since the early 1980s. The unit record files from these surveys permit a unique opportunity to examine in detail trends in the personal and household characteristics of older workers and non-workers.

In Section 4 we then estimate the independent impact of these same factors within a multivariate regression framework.

Section 5 then looks at the income implications for different employment outcomes among the older population. It looks at the changing patterns of household income received by people of different ages, and the relative attractiveness of income in and out of employment.

Section 6 turns to look at flows in and out of employment among the older population. Are older workers fixed in one employment state, or is there significant movement in and out of employment? If the latter, the scope for policy intervention may be greater. Data from both the ABS 1996-97 Income Distribution Survey and from the ABS 1994 Labour Mobility Survey are used.

Section 7 then examines the geographical distribution of employment of older people, using data from the 1 per cent sample from the 1996 Census.

3   Personal and Household Characteristics

While there is considerable evidence on the aggregate levels and trends of work, non-work and income support receipt among the older workforce, there is less information available on the personal and household characteristics of older workers and non-workers. In this section we consider the relationship between employment outcomes and both personal and household characteristics for people of different ages. The primary data sources used in this section and in Sections 4 and 5 are the income distribution surveys conducted by the ABS since 1982.[1] The results are also compared with those from other data sources such as the ABS labour force survey.

The main focus for this report is on people from the age of 50 to 65 (60 for women). However, younger age groups have also been included for comparison. These comparisons complement the proposed analysis of the customer and non-customer surveys, which focus on those aged 45 and over.

The main findings of this section are:

- In the early 1980s, employment rates fell significantly for older men, especially for those aged 55-59. However, employment rates for older workers have remained reasonably steady since 1986;
- Female employment has grown steadily over the period, with the largest growth among women aged 45-54;
- In both 1986 and 1996-97, the majority of people who were not employed were not in the labour force (rather than unemployed). This was the case for both men and women, and for all age groups except for men aged under 45;
- For both men and women, employment rates are generally higher for those with more education. For men, this is particularly the case in the older age groups where the fall in the employment rate with age is greatest for those with less education. For women, the employment rate gap due to education is larger, but is more uniform across age groups;
- Employment rates are higher for people who own their own home – though the gap between owners and other tenure types diminishes as age increases. This suggests that there may be a wealth effect operating among older workers with renters, and to some extent mortgagees, unable to afford to take early retirement;
- At the same time, however, people who live in relatively disadvantaged regions are less likely to be employed, and this gap does not decrease before retirement age;
- Men who have never married are less likely to be employed in all age groups. Marriage shows no clear relationship with employment for women, however there is a still a difference between them on full-time versus part-time employment.
- Women whose husbands are employed are much more likely to be employed themselves. However, this relationship is relatively constant across all age groups, rather than appearing to have a particular association with joint early retirement;
- Australian born persons are slightly more likely to be employed than persons born overseas are. For men born elsewhere this is due to different unemployment rates

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[1]   These surveys have different official names: 1982 is the Income and Housing Survey; 1986 is the Income Distribution Survey; 1990 is the Survey of Income and Housing Costs and Amenities, and since 1994 the continuous survey is known as the Survey of Income and Housing Costs. This paper refers to these surveys collectively as the Income Distribution Surveys.

rather than non-participation rates. However women born elsewhere are less likely to be in the labour force than their Australia born counterparts.

3.1 Data

The richest source of Australian data for analysing the relationship between personal and household incomes, labour force and other characteristics, is the series of income distribution surveys undertaken by the ABS since the early 1980s. Though the sample size of these surveys is as large as some other data sources such as the labour force surveys, they are able to provide a much richer picture of the household and income circumstances of households. Starting in 1982,[2] these surveys were undertaken every four years until 1994, when the ABS began taking the survey annually. This analysis uses unit record files from the years: 1982, 1986, 1990, 1994-95, 1995-96 and 1996-97.[3]

The reference population for the income distribution survey is people resident in 'private dwellings'. This includes houses; flats; home units; caravans; garages; tents; long term caravan parks and other structures used as residence. 'Special dwellings' such as institutions, hotels, boarding schools have been excluded from all of the Income Distribution surveys.[4] Because of these exclusions, we would expect to see a slightly higher employment rate and lower rate of income support than found in the labour force survey (which covers non-private dwellings such as hotels and motels) and administrative data sources.

ABS person weights included in the income distribution surveys have been utilised for the cross tabulations to inflate the sample to a representative Australian private dwelling population. Sample size columns in some of these tables give the unweighted number of observations that the tabulations are based on. Unweighted data are used for the regression analysis in Section 4. Those people who are still at school have been excluded from the person level analysis, but are counted in summaries of household sizes, spouses and dependents. The youngest age of a respondent is 15 years. Age categories are expressed in five-year spans for the older Australians, with two larger categories for younger people: less than 30 years (<30); 30 to 44 years (30-44) and one for the oldest: 65 years and over (65+).

3.2 Employment Patterns, 1982 to 1996-97

We begin by examining the trends in employment rates evident in the income surveys. We then examine in more detail the labour force status of men and women in the 1996 survey, splitting employment into wage and salary earners and the non-limited liability self-employed, and splitting non-employment into unemployed and out of the labour force.

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[2] Earlier income distribution surveys are not available in unit record form.

[3] In the first three surveys, data was collected in the last quarter of each calendar year. In the more recent surveys, interviews were conducted continuously throughout the financial year.

[4] However, in the 1982 survey, people residing in boarding houses and hotels were included. Also in the 1982 survey, 15-20 year olds did not have their incomes reported (so they were effectively set to zero.)

Table 3.1   Employment Rates by Sex and Age, 1982 to 1996-97

Age	Year (% of Population who are Employed)						% change	% point change
	82	86	90	1994-95	1995-96	1996-97		
				Males				
<30	81.6	82.7	81.7	79.2	78.6	77.9	-4.6	-3.8
30-44	91.3	91.3	90.5	87.8	86.2	86.3	-5.5	-5.0
45-49	90.2	87.7	89.3	87.4	86.3	81.7	-9.4	-8.5
50-54	86.1	83.1	83.1	80.7	81.9	85.1	-1.2	-1.0
55-59	79.6	69.6	70.0	68.7	70.2	69.7	-12.4	-9.9
60-64	45.9	41.6	46.1	43.7	46.1	41.3	-10.0	-4.6
65+	8.8	9.3	9.2	7.5	9.2	9.3	5.7	0.5
				Females				
<30	60.6	64.0	65.9	66.4	65.7	67.2	10.9	6.6
30-44	53.5	61.0	66.9	63.2	67.0	61.0	14.1	7.6
45-49	53.9	59.4	66.0	65.3	68.9	70.6	31.1	16.7
50-54	44.4	45.5	53.4	56.6	59.5	60.2	35.7	15.9
55-59	29.4	31.2	33.7	35.1	40.9	37.1	26.5	7.8
60-64	12.1	9.9	17.4	13.4	16.5	17.0	40.5	4.9
65+	2.1	1.7	3.3	2.3	3.9	2.1	0.0	0.0

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Previous research has shown a fall in the employment rates of older men (especially those men over 60 years of age) between 1973 and 1983, outside the period of the current data.[5] Table 3.1 and Figure 3.1 show that employment rates behave in the same manner for the period 1982-1986. Most dramatically, the proportion of 55-59 year olds who were employed fell from 79.6 per cent to 69.6 per cent between 1982 and 1986. Subsequently, however, employment rates for this age group have remained relatively constant. The other groups of older men also experienced employment falls in the early 1980s, though in some cases these were reversed in subsequent years.

However, employment falls have not been confined to older men. The 'prime age' group of men aged 30-44 has seen a steady (although slight) decline in employment rates over the last two decades.

One puzzling feature of these data are the patterns in the last year of data where employment rates for men aged 50-54 increase, and employment rates for men aged 45-49 and 60-64 decrease. It is possible that they are due to sampling error (the sample size for the post 1990 surveys is about half that of the earlier surveys). For example, the approximate standard error for the difference in the proportion of 45-49 year old men employed in 1995-96 compared to 1996-97 is 2.23 percentage points. The actual drop in employment of 4.6 percentage points is only two times this (ie just marginally significant).

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[5] See Perry (2000) for previous research in this area.

Figure 3.1 Male Employment Rates Over Time, Income Distribution Surveys

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Figure 3.2 Female Employment Rates Over Time, Income Distribution Surveys

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

The patterns for women are quite different to those for men. For women, increasing employment rates are seen in all age groups, (65+ being the exception, remaining at the same level in 1996-97 as in 1982, see Table 3.1). This was accompanied by

increasing participation rather than decreasing unemployment rates among women. The age groups which see the largest percentage point increases are 45-49 (16.7 points) and 50-54 (15.9 points). However, these increases in employment rates for women have come from a much smaller base than men, leaving the employment rate for women well below that of men.

The male employment rates in Table 3.1 mirror fairly closely those found in the labour force survey data, shown in Figure 3.3. Differences are likely to be attributable to differences between the surveys' scope. Unfortunately, in the published labour force data, it is not possible to separate the 45-49 and 50-54 year olds. The biggest movement is for men aged 55-59, whose employment rates fell over the period by approximately 10 percentage points (in both data sets).

Figure 3.3 Employment Rates, Males by Age 1982-1997 (Labour Force Survey)

Source: Labour Force Survey, Various Years

In summary, the data show that the employment rate decreases with a person's age, whether male or female. The data also show that for men employment is decreasing within each age group (including younger groups) over time and for women the reverse. The patterns shown for men accord with previous Australian and International literature.[6]

While employment rates are a useful summary indicator of the extent to which people are successfully engaging in the labour market, important trends are subsumed within this overall pattern. Here we disaggregate employment into wage and salary versus self-employment and disaggregate non-employment into unemployment and not in the labour force. The former distinction is relevant to considerations of self-employment as either a positive alternative for those losing wage and salary employment or a negative 'last resort' for those unable to find better paying jobs (Covick, 1984, 1996).

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[6]   For example Encel, cited in Patrickson and Hartmann (1998). Also International Labour Organization (1995) See Perry (2000) for notes on this previous research. These notes also examine the different trends in full and part-time employment patterns. Here we do not discriminate between full and part-time employment.

Whilst the difference between unemployment and not in the labour force is often not clear cut, it is nonetheless likely to be true that unemployment rates are a useful indicator of those groups which are most constrained by lack of employment opportunities. Table 3.2 provides this disaggregation for the latest survey in the study, 1996-97 and compares these patterns with results for the 1986 survey.[7,8]

Table 3.2 Detailed Labour Force Status by Age, Males 1986 and 1996-97

Age	Labour Force Status (per cent)				Total 100%	Sample Size
	Wage/ Salary	Self Employed	Unemployed	Not in the Labour Force		
			Males 1986			
<30	74.8	7.9	10.7	6.6	100.0	2354
30-44	76.5	14.8	4.5	4.2	100.0	2674
45-49	68.4	19.3	4.7	7.6	100.0	610
50-54	66.2	17.0	3.3	13.6	100.0	534
55-59	53.6	16.0	5.0	25.4	100.0	523
60-64	28.5	13.1	3.9	54.5	100.0	545
65+	3.4	5.8	0.6	90.2	100.0	979
All	61.8	12.1	5.8	20.2	100.0	8219
			Males 1996-97			
<30	73.6	4.3	11.7	10.5	100.0	1240
30-44	71.8	14.5	6.4	7.4	100.0	1607
45-49	65.7	16.0	6.8	11.5	100.0	467
50-54	67.6	17.6	4.2	10.7	100.0	422
55-59	53.5	16.2	8.0	22.3	100.0	357
60-64	28.0	13.3	2.4	56.3	100.0	286
65+	4.0	5.3	0.1	90.6	100.0	692
All	58.5	11.1	6.6	23.9	100.0	5071

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

For those less than 50 years, there is a higher proportion of men not in the labour force in 1996-97 compared with 1986. The group aged less than 30 experience by far the highest proportion of unemployment of all the age groups at 11.7 per cent (as a percentage of the population), almost double the overall average of 6.6 per cent. However, the 55-59 age group also experiences relatively high unemployment of 8.0 per cent compared with the average, noting also the low unemployment of those in the age ranges to either side of the 55-59's. Note that these unemployment percentages are expressed as the proportion of each age group that is unemployed, rather than the conventionally defined unemployment rate (which is the number

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7   The 1982 Income Distribution Survey classifies the income of self-employed people, whether limited liability or non-limited liability, as self-employment income. In subsequent surveys, the income of limited liability self-employed people is recorded as wage and salary income, so only non-limited liability self-employment income is recorded as self-employment income. To avoid confusion, when looking at the self-employed in either the labour force status or sources of income context, the 1986 Income Distribution Survey will be the earliest used.

8   Also note that the definition of unemployment in the income distribution surveys up to 1990 was slightly broader than the usual labour force survey definition, as an abbreviated set of job search questions were employed.

unemployed divided by the labour force). The approach here is more appropriate for describing the overall labour market status of groups where a substantial proportion are not in the labour force.

Focussing on the 1996-97 survey, as age increases the proportion of men not in the labour force increases, whilst the proportion unemployed generally falls. For men aged less than 30 year and 30-44 years, those not in the labour force make up approximately half of the total non-employed. For the 45-49 and 50-54 year olds those not in the labour force make up two-thirds of the not employed, while for the 55-59 group this figure increases to three-quarters of people not employed.

The rate of self-employment for men has remained about the same over the period 1986 to 1996-97.[9] This could be due to the fact that the self-employed category here is only encompassing those people who are non-limited liability self-employed. It is suspected that there is a shift of 'genuine' wage and salary earners into limited liability self-employment, but unfortunately such arrangements cannot be identified with the more recent income survey data.

Table 3.3 Detailed Labour Force Status by Age, Females 1986 and 1996-97

Age	Labour Force Status (%)				Total 100%	Sample Size
	Wage/ Salary	Self Employed	Unemployed	Not in the Labour Force		
			Females 1986			
<30	61.0	3.0	10.1	26.0	100.0	2375
30-44	51.8	9.2	4.8	34.2	100.0	2721
45-49	48.8	10.6	2.4	38.3	100.0	571
50-54	38.6	7.0	3.2	51.3	100.0	545
55-59	25.2	6.0	2.9	66.0	100.0	537
60-64	7.4	2.5	0.2	89.9	100.0	573
65+	0.7	1.0	0.0	98.3	100.0	1276
All	41.1	5.5	4.9	48.5	100.0	8598
			Females 1996-97			
<30	65.8	1.4	7.6	25.2	100.0	1277
30-44	54.7	6.3	5.7	33.3	100.0	1697
45-49	60.1	10.5	3.4	26.0	100.0	550
50-54	51.0	9.2	3.6	36.2	100.0	411
55-59	28.9	8.2	2.7	60.2	100.0	333
60-64	12.9	4.1	0.0	83.0	100.0	263
65+	1.1	1.1	0.0	97.9	100.0	928
All	45.0	4.9	4.4	45.8	100.0	5459

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

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9 This is consistent with Eardley and Bradbury (1997, p32). They conclude that, "While there has been a definite increase in the importance of self-employment as an employment form, the growth has not been dramatic when seen against changes in employment as a whole or compared to some other industrialised countries". They too qualify their finding on the difficulty in measuring self-employment, one reason being that the self-employed are likely to report themselves as wage and salary earners.

Table 3.3 shows detailed labour force status for women in 1986 and 1996-97. The category 'not in the labour force', has declined in importance dramatically for women over the period. This is especially the case for the 45-49 and 50-54 age groups, the same groups that, in Table 3.1, experienced the largest percentage point increases in their employment rate. For women, the rate of self-employment has increased slightly over the period, for age groups classified as older workers: 50-54, 55-59 and 60-64 (although the 60-64 rate could be due to the small sample size).

3.3 Education

Are there individual or household characteristics that can help to predict whether a person will be employed, unemployed or out of the labour force? Do these personal and environmental factors have differential impacts upon the older and younger workforce? In Sections 3.3 to 3.8, we examine how the employment rate for individuals varies with respect to a variety of individual and household characteristics. In particular, we look at the association of employment outcomes with education, marital status, housing tenure, degree of economic disadvantage (using the ABS Index of Relative Socio-Economic Disadvantage, IRSED) and country of birth.

Table 3.4 Employment Rates by Highest Educational Qualification, by Age and Sex 1996-97

Education	Age	Males		Females	
		% Employed	Sample Size	% Employed	Sample Size
<=Secondary	<30	72.4	749	59.8	789
	30-44	80.4	681	52.5	938
	45-49	73.6	193	64.0	327
	50-54	76.9	191	51.8	263
	55-59	63.2	185	29.9	247
	60-64	30.4	141	13.3	207
	65+	8.3	427	1.9	771
Vocational	<30	85.9	369	73.7	315
Trade/Other	30-44	90.1	660	66.2	480
	45-49	88.6	202	75.9	152
	50-54	90.1	173	72.2	111
	55-59	75.6	136	56.7	58
	60-64	50.0	120	20.3	37
	65+	10.0	229	3.0	136
University	<30	85.9	122	87.8	173
	30-44	91.8	266	81.3	279
	45-49	86.5	72	93.7	71
	50-54	97.0	58	84.1	37
	55-59	82.3	36	61.6	28
	60-64	63.1	25	51.6	19
	65+	16.5	36	3.5	21

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Education has been grouped into three categories representing the highest level of educational qualification of a person: less than or equal to secondary; trade/diploma or

other education and university education (which includes bachelor and higher degrees).

Table 3.4 cross tabulates the highest level of educational qualification with current labour force status, and this data is also shown in Figure 3.4 and Figure 3.6. For most age groups, the higher the education level, the greater likelihood of employment. The employment rate remains fairly constant within each educational group until the 55-59 age range, when it falls for each educational group.

While employment rates for vocational or trade educated men are similar to those with university education up to age 49, after this point men with higher education have higher employment rates. It is possible that part of this divergence is due to a compositional effect, as older men with university education are a smaller and more elite section of their cohort than younger men.[10] For men, as age increases past 50, the lines in Figure 3.4 fall roughly parallel, although there is some widening of the employment rate gap between secondary and university education.

Figure 3.4 Male Employment Rates by Highest Educational Qualification and Age, 1996-97

 Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Bearing this in mind, it does nonetheless suggest that concerns of 'middle management' retrenchment may be overstated – at least by comparison with the fate of older blue-collar workers. Those people with the highest income earning potential are the least likely to take voluntary (or involuntary) early retirement. Across these different demographic groups, this suggests that any income effects on retirement choices are outweighed by other considerations.

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[10]   Of all men aged 45-49 in 1996-97, 15.1 per cent held university degrees or higher, compared with only 8.3 per cent of 60-64 year olds. It would be desirable to extend the analysis of this section with cohort data, rather than a single cross-section. Note, however, that holding education constant, employment rates fall steadily after age 50-54 - so that these different education levels are not the explanation for the lower employment rates of older workers.

These conclusions are reinforced when we look at the proportional drop in employment faced by each education group as they age. This is shown in Figure 3.5 where employment rates for each age group have been scaled to a common rate of 1.0 at age 50-54. For the age group 55-59, male employment rates are 80 per cent of their peers' level at 50-54 years. This is regardless of educational qualification. However, moving to the 60-64 age group there is a much larger fall in male employment for those who are have secondary or less than secondary educational qualifications, than for those with higher qualifications. Men aged 60-64 with low education have employment rates of only 40 per cent of 50-54 employment levels, whereas for those with vocational or trade qualifications, employment is 55 per cent of 50-54 employment levels, and for university qualified people it is 65 per cent of 50-54 employment levels. university qualified men only experience large falls in employment once retirement age is reached, at which time employment stands at around 17 per cent of 50-54 employment levels for university qualified men, and around 10 per cent for other men.

Figure 3.5 Reductions in Male Employment After Age 50-54

Source: ABS Income Distribution Surveys, confidentialised unit record files, 1996-97.

The pattern for women (see Figure 3.6) is somewhat different to men. Their employment rate peaks earlier, at 45-49, regardless of education level attained. There is a definite dip in the employment rate for the 30-44 age group, which could be attributed to child rearing. Women with a university qualification have consistently higher rates of employment than those women with less education. University educated women generally have employment rates approximately 30 percentage points greater than secondary or less than secondary educated women. This difference is significantly greater for women than for men. As for men, it can be seen that university educated women do not experience a dramatic fall in their employment rate until 65+.[11]

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[11]   It should be noted however that the standard error on the estimated employment rate of 60-64 year old women is quite large. This renders the confidence interval rather wide (28.7 per cent, 74.5 per cent).

Figure 3.6 Female Employment Rates by Highest Educational Qualification and Age, 1996-97

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.7 shows the reductions in female employment after the peak employment age of 45-49. In Figure 3.6 we saw that, like men, female employment rates for those with University qualifications remain higher than their less qualified counterparts. However, Figure 3.7 shows that until 60-64, vocational and trade qualified women experience smaller relative reductions in their employment rates than university qualified women.

Figure 3.7 Reductions in Female Employment After Age 45-49

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Education, as it is roughly defined here, is strongly and monotonically related to employment status, a statement that is true for both sexes. The divide between

secondary and less than secondary, and university education with respect to employment status appears to be much more pronounced for women. However, for men, the gap between education levels does widen substantially with age.

3.4   Home Ownership

Whilst education serves as a useful proxy for the human capital of (potential) workers, housing status serves in the Australian context as a valuable indicator for physical capital resources. We consider the implications of housing wealth for living standards in more detail in Section 5. Here we focus on the relationship of home ownership with employment outcomes.

Figure 3.8 Male Employment Rate by Tenure Type and Age

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.8 shows how employment rates vary by tenure, age and sex. A more detailed disaggregation of labour force status is shown in Table 3.5. At all ages male home owners, be they mortgagees or an outright owner of property are much more likely to be employed than renters and boarders. The same pattern is seen for women.[12]

Figure 3.8 shows how male employment rates vary by tenure and age. A more detailed disaggregation of labour force status (and the patterns for women) are shown in Table 3.5. For men of all ages, those paying off mortgages have the highest employment rates, followed by outright owners and then renters and boarders (with the exception of owners less than 30 years of age). The same pattern is seen for women.[13]

There are at least two reasons (acting in opposite directions) why we might expect an association between home ownership and employment. On the one hand we might

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[12]   Note that tenure is defined according to the status of the individuals' income unit, and so for married couples is identical. Men and women need not have the same housing tenure patterns because of the different ages of husbands and wives, and the tenure patterns among singles.

[13]   Note that tenure is defined according to the status of the individuals' income unit, and so for married couples is identical. Men and women need not have the same housing tenure patterns because of the different ages of husbands and wives, and the tenure patterns among singles.

expect a positive correlation on the basis that people with greater earning capacity may have a greater probability of employment, whilst at the same time they are also more likely to be able to accumulate housing wealth. On the other hand, we would expect a pure wealth effect to act in the opposite direction. That is, wealthier people will be more likely to take early retirement and increase their leisure time. For those owners who are still paying off their mortgages, this wealth effect may be moderated by the income effect due to their greater expenditure requirements. That is, they may have less disposable income and hence be less likely to choose retirement.

The results here can be interpreted as reflecting the combined effect of these two influences, though other explanations may be possible. The lower employment rates (for most age groups) of renters can be explained in terms of heterogeneity of earning capacity, with renters more likely to both have poor prospects in both the labour and housing markets. Interestingly, the divergence of employment rates between owners and renters diminishes as people near retirement age. This provides some support for the hypothesis that the wealth effect is starting to dominate the heterogeneity effect at this point. Putting this the other way round; renters cannot afford to take early retirement.

The comparison of mortgagees with home owners provides more support for the existence of wealth/income effects. At all ages, owners are less likely to be employed than mortgagees, supporting the argument that those with substantial housing costs are less likely to be able to afford retirement. The way this difference varies with age is more difficult to explain, as it undoubtedly reflects the combination of heterogeneity, wealth/income and selection effects.

Table 3.5   Detailed Labour Force Status and Employment Rates by Housing Tenure Type, by Age and Sex, 1996-97

Tenure Type	Age	%	Labour Force Status (%)				Sample Size
		Employed	Wage/ Salary	Self Employed	Unemployed	NILF	
			Males				
Owner	<30	58.1	54.4	3.7	8.3	33.7	70
	30-44	88.4	69.4	19.0	4.3	7.2	317
	45-49	81.7	62.3	19.3	7.0	11.3	174
	50-54	88.1	70.6	17.5	2.6	9.3	198
	55-59	68.7	48.9	19.8	8.1	23.2	211
	60-64	40.2	28.2	12.0	2.5	57.3	208
	65+	9.3	3.8	5.5	0.2	90.5	549
Mortgagee	<30	88.4	81.1	7.3	5.0	6.6	192
	30-44	95.7	79.3	16.4	2.8	1.6	735
	45-49	92.8	77.0	15.8	2.5	4.7	199
	50-54	90.0	68.8	21.3	2.4	7.6	147
	55-59	85.6	76.3	9.4	4.6	9.8	75
	60-64	65.5	34.6	30.9	1.9	32.6	26
	65+	16.3	15.0	1.3	na	83.7	31
Renting/	<30	77.4	73.6	3.8	13.1	9.5	978
Boarding/Other	30-44	74.3	64.5	9.8	11.7	14.1	555
	45-49	61.6	50.8	10.8	14.4	24.0	94
	50-54	68.9	57.7	11.2	11.7	19.4	77
	55-59	57.8	45.4	12.4	10.9	31.4	71
	60-64	34.2	24.0	10.3	2.2	63.6	52
	65+	7.0	1.4	5.6	na	93.0	112
			Females				
Owner	<30	57.6	54.6	3.0	6.5	35.9	83
	30-44	58.6	51.9	6.6	4.3	37.2	391
	45-49	68.5	58.1	10.4	1.5	30.0	226
	50-54	58.0	48.2	9.8	2.2	39.9	224
	55-59	35.0	26.0	9.1	1.7	63.2	217
	60-64	13.7	9.7	4.0	na	86.3	199
	65+	2.3	1.2	1.2	na	97.7	697
Mortgagee	<30	70.1	67.7	2.4	4.6	25.3	263
	30-44	67.7	59.2	8.5	4.7	27.6	752
	45-49	83.5	71.1	12.4	2.3	14.2	198
	50-54	74.8	66.9	7.9	0.9	24.3	113
	55-59	64.4	52.2	12.2	2.4	33.2	50
	60-64	66.1	52.4	13.7	na	33.9	16
	65+	na	na	na	na	100.0	33
Renting/	<30	67.3	66.3	1.0	8.4	24.3	931
Boarding/Other	30-44	54.1	50.8	3.4	8.1	37.8	554
	45-49	55.0	47.0	7.9	8.6	36.5	126
	50-54	44.2	34.7	9.5	12.7	43.2	74
	55-59	24.7	22.0	2.8	5.7	69.5	66
	60-64	14.7	13.8	1.0	na	85.3	48
	65+	1.8	0.9	0.9	na	98.2	198

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

3.5   Area of Residence

An important indicator of wealth and socio-economic disadvantage is the location in which a person lives. Using Census data for collectors' districts, the ABS has calculated an Index of Relative Socioeconomic Disadvantage (IRSED). This is calculated from a number of factors that are likely to reflect the presence of socio-economic disadvantage among the households in the collectors' district. In the income surveys, the ABS includes the value of this index for the collectors' district in which the individual lives.

We use this index here to ascertain whether or not employed people live in less disadvantaged areas than employed people. One might loosely interpret this as an indicator of the 'social capital' associated with particular geographic locations. Alternately, one might see the indicator as providing evidence of a broad range of economic and social resources that permit people to live in more (or less) desirable locations. For home owners, the value of this index is likely to be strongly correlated with the value of their home, and hence their total wealth. It thus provides an alternative indicator of the impact of wealth effects on retirement (subject to the caveats discussed in Section 3.4).

Values of the IRSED index for people of different age and gender are shown in Figure 3.9 to Figure 3.14. Each figure shows only two age groups to reduce visual clutter. The bottom axis of each figure shows which the decile of the IRSED index applying to the location where the each person lives. Higher values mean more advantaged areas. The vertical axis shows the percentage of people of the given age and sex who have IRSED decile values equal to or below the value on the bottom axis. When one line lies above another across the entire range, this implies that the group represented by higher line is uniformly more disadvantaged. For example, Figure 3.9 shows that for employed men aged 30-44, around 45 per cent fell into the bottom five decile groups of the IRSED index (ie they fell below the median IRSED value). The corresponding estimate for not-employed men aged 30-44, is around 65 per cent. This gap between the employed and not employed is greatest for men aged 45-49, but also applies to women and men of different ages. In general, the not-employed live in more disadvantaged regions than the employed. The main exception is for men older than 64, where there is no difference for the most advantaged regions.

For the older worker groups, this pattern is the reverse to what might be expected if wealth effects were leading to an increased voluntary retirement rate. It would appear that other heterogeneity or wage-related effects are dominating. That is, people with higher wage rates or other characteristics that make employment more attractive are also able to live in better locations. Unlike the evidence on home ownership, there is little evidence here that the gap between the employed and not employed steadily narrows with age.

Figure 3.9 IRSED Cumulative Distribution, Males 30-44 and 45-49

Figure 3.10   IRSED Cumulative Distribution, Males 50-54 and 55-59

Figure 3.11   IRSED Cumulative Distribution, Males 60-64 and 65+

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.12   IRSED Cumulative Distribution, Females 30-44 and 45-49

Figure 3.13   IRSED Cumulative Distribution, Females 50-54 and 55-59

Figure 3.14   IRSED Cumulative Distribution, Females 60-64 and 65+

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

3.6 Marital Status

Employment rates for men and women by age and marital status are shown in Figure 3.15 and Figure 3.16 (the same data are shown in Table 3.6). There appears no clear distinction of employment rates based on the marital status of women that is consistent across age groups (ie lines in the graph cross). For men, the relationship between marital status and employment status is clearer, with the married (including de facto) men having higher employment rates in every age group. The higher employment rate for never married men at age 55-59 is probably due to the small sample size (this estimate has an approximate standard error of 10.8 percentage points).

Figure 3.15   Employment Rate by Marital Status and Age, Males 1996-97

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.16   Employment Rate by Marital Status and Age, Females 1996-97

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Table 3.6   Employment Rate by Marital Status by Age by Sex, 1996-97

Marital Status	Age	Males % Employed	Females % Employed
Married /	<30	88.8	59.2
De Facto	30-44	90.2	61.4
	45-49	85.4	72.1
	50-54	88.1	61.6
	55-59	74.1	36.5
	60-64	45.8	16.8
	65+	10.7	3.2
Divorced /	<30	82.9	50.1
Separated	30-44	83.3	53.3
	45-49	84.5	59.0
	50-54	74.4	57.6
	55-59	33.4	41.6
	60-64	29.0	17.0
	65+	5.3	1.3
Never	<30	74.3	72.5
Married	30-44	73.1	66.1
	45-49	49.4	78.6
	50-54	61.5	39.6
	55-59	69.1	7.8
	60-64	20.6	23.9
	65+	4.2	.

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

3.7   Husband and Wife Associations

Previous research has shown a strong correlation in the employment rates of men and women in Australia and other countries (eg Bradbury, 1995). This has usually been explained in terms of the common characteristics that spouses share (location, education and so on), together with the effects of labour market status. The latter (potentially) includes the operation of income tests, which reduce the returns to the secondary earner when the first is receiving an income support payment, and socio-economic norms of gender roles in the household. For the older workforce, a particular aspect of the latter is social norms relating to joint decisions about retirement. In particular, if the husband retires or has a low expectation of finding work again, the wife may also cease work to facilitate the undertaking of joint leisure activities such as travel.[14]

This association between husband and wife employment status applies across all age groups, as shown in Figure 3.17 (with the data in Table 3.7). At all ages, women with non-employed spouses are much less likely to be employed themselves.

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[14]   These issues have been raised in evidence to the Standing Committee on Employment, Education and Workplace Relations. "Employed women tend to have partners who are also employed, and there are now more older working age people in families where neither partner works as well as more older single jobless people." (2/9/1999 'Responder' Mr Wight from Standing Committee on Employment, Education and Workplace Relations: Issues specific to older workers seeking employment, or establishing a business, following unemployment.)

Figure 3.17   Employment Rate of Wife by Labour Force Status of Husband, by Age of Husband

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

The difference in employment rates is greatest for prime employment ages, narrowing with the approach of retirement age. In ratio terms, the gap is essentially constant from age 50 onwards. From age 50 to age 64, the employment rate for women with not-employed husbands is a constant 1/3 of the rate for women with employed husbands. This suggests that there is no particularly strong effect of women seeking to jointly retire with their husbands. Rather, the factors that lead to husband-wife employment associations do not seem to have any particular association with early retirement.

Table 3.7   Married Couples: Employment Rate of Wife by Employment Status of Husband, 1996-97

Husband's Labour Force Status	Age	Wife's Labour Force Status (%)		Total
		Employed	Not Employed	
Employed	<30	69.7	30.4	100
	30-44	61.7	38.3	100
	45-49	79.2	20.8	100
	50-54	76.0	24.0	100
	55-59	66.8	33.2	100
	60-64	48.6	51.4	100
	65+	46.3	53.7	100
	All Aged <30 - 64	67.1	32.9	100
Not Employed	<30	38.1	61.9	100
	30-44	25.5	74.5	100
	45-49	32.7	67.3	100
	50-54	25.2	74.8	100
	55-59	22.9	77.1	100
	60-64	17.2	82.9	100
	65+	3.8	96.2	100
	All Aged <30 - 64	24.7	75.3	100

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

3.8   Country of Birth

Table 3.8 demonstrates that both men and women are more likely to be employed if they were born in Australia. However, as Figure 3.18 and Figure 3.19 show, these lower employment rates for men born elsewhere are due mainly to their having higher unemployment rates than their Australian counterparts. This is true in particular of men in their 50's. The proportion of men born elsewhere reaches a peak for men aged 50-54, 40.2 per cent of whom were born elsewhere. Some 39.4 per cent of males aged 55-59 were also born elsewhere. This larger contribution of foreign-born people in these age groups is contributing to higher unemployment for this age group in general (see Table 3.2).

Table 3.8   Detailed Labour Force Status by Country of Birth by Age by Sex, 1996-97

Country of Birth	Age	Labour Force Status (%)				Total
		Wage or Salary	Self Employed	Unemployed	Not in the Labour Force	
			Males			
Born Elsewhere	<30	61.3	4.5	11.3	23.0	100
	30-44	72.2	10.8	7.8	9.3	100
	45-49	58.0	19.9	8.9	13.2	100
	50-54	72.1	8.3	7.2	12.3	100
	55-59	55.6	15.1	12.6	16.8	100
	60-64	29.6	12.0	3.0	55.4	100
	65+	2.9	1.8	0.4	94.9	100
Australian Born	<30	76.4	4.3	11.7	7.6	100
	30-44	71.7	15.8	5.9	6.6	100
	45-49	69.3	14.2	5.8	10.7	100
	50-54	64.5	23.8	2.2	9.5	100
	55-59	52.2	16.9	5.0	25.9	100
	60-64	27.2	14.0	2.0	56.8	100
	65+	4.5	7.0	na	88.5	100
			Females			
Born Elsewhere	<30	53.7	1.4	10.2	34.6	100
	30-44	49.7	4.8	6.3	39.3	100
	45-49	54.3	8.7	3.6	33.5	100
	50-54	49.6	6.1	5.5	38.9	100
	55-59	28.8	4.5	4.2	62.4	100
	60-64	14.4	4.1	na	81.5	100
	65+	0.3	0.3	na	99.4	100
Australian Born	<30	69.0	1.4	6.8	22.7	100
	30-44	56.9	7.0	5.5	30.6	100
	45-49	63.3	11.6	3.3	21.9	100
	50-54	51.9	11.3	2.3	34.5	100
	55-59	29.0	10.3	1.8	59.0	100
	60-64	12.2	4.1	na	83.7	100
	65+	1.4	1.3	na	97.3	100

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.18   Labour Force Status, Males Born Elsewhere

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.19   Labour Force Status, Males Born in Australia

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

While unemployment rates are also slightly higher for women born elsewhere than women born in Australia, Figure 3.20 and Figure 3.21 show the difference in employment rates is due to overseas born women being more likely to be out of the labour force. However, this is the case only for women younger than 50 years of age. After 50, the likelihood of an overseas born women being out of the labour force is approximately the same as their Australian born counterparts.

Figure 3.20   Labour Force Status, Females Born Elsewhere

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 3.21   Labour Force Status, Females Born in Australia

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

4 The Characteristics Influencing Employment: A Multivariate Analysis

The previous section provided evidence of a wide range of personal and household characteristics that are associated with employment and non-employment. Many of these characteristics, however, are associated with each another. In this section we use a multivariate regression model to describe the independent impact of each of these characteristics on the probability of employment.

We focus on the most recent survey, 1996-97, and estimate the probability of working across men and women aged 15-64. The dependent variable in the analysis is dichotomous, equal to one if the reference person is employed (both wage and salary earners and self employed) and zero if they are not employed (both unemployed and not in the labour force). Since this variable is bounded rather than continuous, a logistic regression is estimated using maximum likelihood methods.

The explanatory variables are:

- *Couple*. Which is equal to one if the person is living with a partner, and zero if they are single;

- *Highest Level of Educational Qualification Attained* (by the person). This enters the model in the form of a system of dummy variables. A dummy for whether the person has university education and a second dummy to indicate whether they have vocational or trade qualifications. If both of these dummy variables are equal to zero, the person has secondary education or less;

- *Australian Born*. Which is equal to one if the person was born in Australia and zero if born elsewhere;

- *Housing Tenure Type*. This enters the model in the form of a system of dummy variables. A dummy for whether the person's income unit is renting or boarding or some other tenancy arrangement, and a second dummy indicating whether their income unit is mortgaged. If both of these variables are equal to zero, then the person's income unit is an outright owner;

- *IRSED*. The ABS Index of Relative Socio-Economic Disadvantage. This is entered directly as the decile level described in the previous section, 1 indicating most disadvantaged and 10 least disadvantaged;

- *Dependent Child*. Which is equal to one if the person has a dependent child and zero otherwise. Dependent children are defined as those people who are: under 15 years of age; or aged 15-24 and are full time students, live with a parent, guardian or other relative and do not have a spouse or offspring of their own living with them;

- Household *Housing Wealth*. In tens of thousands of dollars, household housing wealth is defined as the current sale price (in dollars) for the dwelling (if a person owns their dwelling) less what they owe in mortgage repayments. If the person does not own their dwelling, this is zero.

- Weekly Household *Housing Expenditure*. In hundreds of dollars, weekly household housing expenditure is defined as the sum of rental payments, mortgage repayments, renovation and extension loan repayments;

- *Partner's Employment Status*. A second model is estimated for women, including an additional variable equal to one if a female's partner is employed, and zero otherwise.

We have chosen this set of variables to reflect key personal and household characteristics that might be expected to influence labour supply decisions. Some variables, such as income, which might be strongly associated with employment, are not included, as they are clearly dependent upon labour supply rather than the other way round. Indicators of wealth such as housing wealth and location of dwelling wealth are included on the basis that they represent past labour force status and are therefore exogenous. However, we cannot interpret the association between wealth and current labour supply as a pure wealth effect as there are likely to be other factors which cause both factors, but which are not included in our model. Past labour market status, for example, is likely to have a direct effect upon both current labour force status and accumulated wealth. These background associations need to be borne in mind when considering the results here.

We are interested in both the patterns of employment for older workers, as well as the way in which these patterns are different from those of younger workers. To show these patterns we estimate a model using a variable *young* which is equal to one for people aged under 50 and zero for those older than 50 years. All the variables above are included in the regression, both directly and in interaction with this variable. In Table 4.1, Table 4.2 and Table 4.3 therefore, the estimates in the top half show the estimated effect of the explanatory variables on the non-employment probabilities of older workers. The estimates in the bottom section show the extent to which these influences are different for younger workers (the effect on younger workers can be estimated by adding together the corresponding parameters in the top and bottom of the table). We also include a system of age dummies, using the group 50-54 years as the control.

4.1 Regression Results, Males

For men, the sign on the parameter estimates for marital status, the IRSED and educational attainment are positive and are significant at the one per cent level. This indicates an increase in the probability that a male is working if they are married, have a higher level of educational attainment, or live in a relatively advantaged area. Men aged 55-59 or 60-64 years are significantly less likely than men aged 50-54 to be employed. Those men younger than 50 years of age do not have a significantly different probability of employment that those men aged 50-54.

Variables that are not significant are having a dependent child, renting and household wealth. The lack of importance of housing tenure in the multivariate setting may reflect the fact that much of the difference in employment rates stems from other characteristics such as educational differences. Similarly, housing wealth (which has renters defined equal to zero) does not have definite significance in the model.[15] This

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15 Because rental status is also included as a separate variable, this variable reflects the influence of wealth on owners only.

could be due to the inclusion of the IRSED index, which we would expect to be correlated with land values.

Table 4.1 Logit Regression, Males

Observations: 3139
Working: 2528
Probability 0.805
bxbar 1.420

Variable Name		Coefficient Estimate	Standard Error	t-Statistic	Average Marginal Effect
Intercept		-0.303	0.313	-0.969	na
Married	***	0.883	0.205	4.315	0.1390
Vocational Educated	***	0.511	0.162	3.151	0.0803
University Educated	***	0.966	0.326	2.969	0.1521
Renting		-0.241	0.265	-0.908	-0.0377
Mortgage		0.400	0.273	1.465	0.0628
Australian Born	*	0.273	0.157	1.744	0.0428
HH Wealth	*	0.015	0.009	1.685	0.0024
Wkly Housing Expenditure	**	0.332	0.147	2.261	0.0521
Dependent Child		-0.312	0.218	-1.428	-0.0489
IRSED	***	0.104	0.030	3.483	0.0163
Aged 30-34		0.560	0.450	1.244	0.0880
Aged 35-39		0.579	0.455	1.274	0.0911
Aged 40-44		0.323	0.452	0.715	0.0506
Aged 45-49		-0.026	0.442	-0.059	-0.0041
Aged 55-59	***	-0.757	0.194	-3.894	-0.1191
Aged 60-64	***	-2.038	0.207	-9.829	-0.3095
Young*Married		-0.327	0.292	-1.119	-0.0512
Young*Vocational		0.150	0.224	0.670	0.0236
Young*University		-0.438	0.402	-1.090	-0.0688
Young*Renting	**	-0.743	0.355	-2.094	-0.1169
Young*Mortgage		-0.131	0.379	-0.346	-0.0206
Young*Australian Born		0.294	0.217	1.356	0.0461
Young*HH Wealth		0.004	0.013	0.301	0.0006
Young*Wkly HH Expenditure		0.179	0.187	0.957	0.0281
Young*Dependent Child		0.100	0.291	0.344	0.0157
Young*IRSED		0.001	0.040	0.029	0.0002

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

The marginal effect of a unit increase in each variable is shown in the last column of each of the tables. These show the effect of a one unit increase in the explanatory variable on the probability of employment (because the logistic regression model is non-linear, this is an approximation evaluated at the mean employment probability[16]). The effect of being married is to increase the probability of being employed by 13.9 percentage points. If a man is 55-59 years old, his chance of being employed decreases by 12 percentage points (relative to a man aged 50-54 years). Similarly a 60-64 year old is some 31 percentage points less likely to be employed. Achieving a university education also has a large marginal effect, increasing the chance of

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[16] The marginal effect is calculated by $\Delta p_i^{\pm} = (1 + e^{-(\overline{\beta x} \pm \beta_i)})^{-1} - \overline{p}$, where $\overline{p}$ =mean probability, and $\overline{\beta x} = \log(\frac{1}{\overline{p}} - 1)^{-1}$. The average of the change in each direction is presented.

employment by 15.2 percentage points. While these are the largest and most significant marginal effects at face value, if one moves from the least disadvantaged decile of IRSED to the most disadvantaged, then there is an increase in the probability of employment of 16.2 percentage points.[17]

4.2   Regression Results, Females

Table 4.2 presents the results for the same model for women. The significant variables have the same sign as in the male model. However, marriage is not significant in the female model and it was significant at the one per cent level for men. Also, some interaction terms are marginally significant in the female model. The most significant interaction term is being young with a dependent child. This situation decreases the probability that a woman will be employed by some 14.3 percentage points.

Education is much more important in determining the labour force status of women than men. This was alluded to in the bivariate analysis (see Figure 3.6), and it can be seen that this relationship remains when other characteristics have been controlled for in the regression model. For women the marginal effect of a moving from secondary education to a bachelor degree is to increase the probability of being employed by 29.1 percentage points. This effect is almost twice times that for men. As for men, women aged 55-59 or 60-64 are much less likely to be employed than women aged 50-54. Further, women in their 40's are significantly more likely to be employed than women aged 50-54.

Given the strong association between husband and wives employment rates, we also estimate the female model including an indicator of whether the female's partner is employed or not. These results are shown in Table 4.3. Including husband's employment status now makes marital status a significant variable.[18] Compared to single women, having an employed partner increases employment probability by a net 9.8 percentage points (33.2-23.4). For a married woman whose partner is not employed the net effect is negative, they are (approximately) 23 percentage points less likely than a single woman is to be employed. As noted earlier, it is possible that these associations could reflect either associative marriage rather than direct effects (though we do control for observed characteristics here).

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[17]   The effect is found by evaluating the change in the estimated logistic function for IRSED=1 and IRSED=9. This method is used because we are moving from one extreme of the variable to the other, ie. not the small change intended to be evaluated by the average marginal effect in the table.

[18]   The variable 'partner employed' takes the value 1 if they have a partner *and* the partner is employed, and zero otherwise. The impact of having an employed partner (compared to no partner at all) is thus given by the sum of the parameter on this variable with the parameter value for the 'married' variable.

Table 4.2 Logit Regression, Model I Females

		Observations:	3254		
		Not working:	1851		
		Probability	0.569		
		bxbar	0.277		

Variable		Coefficient Estimate	Standard Error	t-Statistic	Average Marginal effect
Intercept	*	-0.494	0.268	-1.843	
Couple		0.000	0.176	-0.002	-0.0001
Vocational Educated	***	0.743	0.180	4.135	0.1746
University Educated	***	1.354	0.280	4.844	0.2911
Renting	*	-0.453	0.245	-1.852	-0.1094
Mortgage	**	0.585	0.247	2.365	0.1397
Australian Born		0.173	0.151	1.147	0.0423
HH Wealth		-0.003	0.006	-0.449	-0.0006
Wkly Housing Expenditure	**	0.231	0.116	1.990	0.0565
Dependent Child		-0.382	0.235	-1.622	-0.0925
IRSED	***	0.076	0.027	2.769	0.0185
Aged 30-34		0.194	0.356	0.546	0.0475
Aged 35-39	*	0.650	0.353	1.841	0.1543
Aged 40-44	**	0.701	0.350	2.005	0.1655
Aged 45-49	**	0.819	0.344	2.377	0.1908
Aged 55-59	***	-0.838	0.167	-5.024	-0.1948
Aged 60-64	***	-1.827	0.209	-8.742	-0.3581
Young*Couple		0.074	0.219	0.336	0.0180
Young*Vocational	*	-0.351	0.210	-1.674	-0.0852
Young*University		-0.128	0.324	-0.395	-0.0314
Young*Renting		-0.073	0.297	-0.245	-0.0178
Young*Mortgage		-0.437	0.292	-1.494	-0.1055
Young*Australian Born	*	0.305	0.182	1.679	0.0743
Young*HH Wealth		-0.001	0.007	-0.147	-0.0003
Young*Wkly HH Expenditure		-0.046	0.130	-0.353	-0.0112
Young*Dependent Child	**	-0.597	0.262	-2.278	-0.1425
Young*IRSED		0.006	0.033	0.167	0.0014

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

Table 4.3   Logit Regression, Model II Females

Observations:	3254			
Not working:	1851			
Probability	0.569			
bxbar	0.277			

Variable		Coefficient Estimate	Standard Error	t-Statistic	Average Marginal Effect
Intercept		-0.339	0.272	-1.245	
Married	***	-1.034	0.227	-4.563	-0.2343
Partner Employed	***	1.625	0.205	7.910	0.3319
Vocational Educated	***	0.725	0.187	3.879	0.1709
University Educated	***	1.467	0.288	5.092	0.3090
Renting	**	-0.503	0.248	-2.032	-0.1209
Mortgage	*	0.433	0.256	1.690	0.1045
Australian Born		0.045	0.157	0.283	0.0109
HH Wealth		-0.007	0.006	-1.275	-0.0018
Wkly Housing Expenditure		0.187	0.114	1.639	0.0457
Dependent Child		-0.397	0.243	-1.635	-0.0961
IRSED	*	0.054	0.028	1.915	0.0133
Aged 30-34		0.085	0.361	0.235	0.0208
Aged 35-39	*	0.605	0.358	1.688	0.1442
Aged 40-44	*	0.659	0.355	1.858	0.1563
Aged 45-49	**	0.754	0.350	2.157	0.1770
Aged 55-59	***	-0.645	0.174	-3.710	-0.1531
Aged 60-64	***	-1.483	0.218	-6.804	-0.3114
Young*Married		-0.041	0.302	-0.136	-0.0101
Young*Partner Employed		-0.203	0.276	-0.735	-0.0496
Young*Vocational		-0.344	0.217	-1.586	-0.0835
Young*University		-0.241	0.333	-0.723	-0.0587
Young*Renting		0.083	0.301	0.274	0.0202
Young*Mortgage		-0.357	0.301	-1.187	-0.0867
Young*Australian Born	**	0.385	0.188	2.046	0.0934
Young*HH Wealth		0.002	0.008	0.246	0.0005
Young*Wkly HH Expenditure		-0.026	0.128	-0.200	-0.0063
Young*Dependent Child	**	-0.625	0.270	-2.317	-0.1488
Young*IRSED		0.015	0.034	0.451	0.0038

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

4.3   Conclusion

The regression analysis has shown that the likelihood that a person is employed is strongly associated with their demographic characteristics. These patterns broadly mirror those found in the bivariate analysis of Section 3. Generally, for men and women factors associated with employment are similar. For example, we find that age, education and the socio-economic status of the area are strong predictors of employment status for both men and women. However, the effect of having these characteristics varies in size across the sexes. For example education has a much larger positive effect on the probability that a female is working, than for a male.

5   Income Sources and Income Distribution

5.1   Introduction

What are the living standards of older workers and non-workers? The answer to this question can help us address two questions.

First, how severe a problem is non-employment for this group? While there are also longer-term outcomes of non-employment (such as the running down of savings) and there are larger social cost questions (such as the cost of income support payments), the current living standards of older non-workers must be an important component in evaluating the need and type of policy response to this issue.

Second, the answer to this question can aid in understanding behaviour. If non-workers are well-off it is more plausible that they may have voluntarily undertaken retirement.

This section therefore focuses on the living standards of older non-workers in comparison to younger non-workers and to working individuals. We begin by an examination of 'income packages'. As well as providing information on living standards, this also provides information on the role of social transfers complementing that obtained from administrative sources. We look at how average replacement rates (the ratio of mean non-employment income to mean employment income for a particular group) have changed over time, the relationship between employment status and household income and household expenditure. The main findings are as follows.

- A much smaller proportion of people aged 65 years and over in 1996-97 are dependent principally on the government for their household income than in 1986. For men, this proportion has fallen from 75.7 per cent to 64.5 per cent, and for women from 73.1 per cent to 58.1 per cent.

- For the older workforce, there is no evidence of significant change over time in the average replacement ratio of income available when not employed to income when employed.

- Not employed older people of workforce age have much lower household incomes than employed and their housing wealth levels are significantly lower.

5.2   Trends in the Principal Source of Income

We begin by examining the 'income packages' in the households of older workers, starting with the principal source of income. We utilise the 'current' income measure in the ABS income surveys. Income is divided into 3 categories; wages and salaries, government transfers, other income.

Family payments have not been included when calculating the principal source of income (though they are included where we show actual amounts received).[19]

Table 5.1   Principal Source of Household Income, Males 1986-1996-97

		Survey Year				
	Age	86	90	94-95	95-96	96-97
Wage/Salary	<30	81.9	80.9	83.5	82.9	80.5
	30-44	80.0	77.9	78.3	74.8	76.5
	45-49	79.1	75.8	81.5	79.4	71.7
	50-54	76.0	72.6	76.0	73.2	73.8
	55-59	65.3	62.4	62.4	55.8	63.6
	60-64	38.9	40.6	35.9	43.4	37.9
	65+	11.6	10.9	12.3	11.6	11.5
Government	<30	8.5	7.4	7.7	8.7	10.9
Transfer	30-44	5.9	6.5	9.0	10.6	10.7
	45-49	7.2	6.5	7.1	7.5	11.1
	50-54	9.8	9.1	11.5	12.6	12.4
	55-59	13.7	15.4	17.8	17.1	19.0
	60-64	37.0	26.4	38.5	30.2	35.1
	65+	71.2	62.5	59.5	60.6	59.3
Other	<30	8.0	11.0	8.2	7.6	8.4
Income	30-44	12.3	14.7	11.6	13.7	11.6
	45-49	11.6	16.5	10.0	12.3	16.2
	50-54	12.2	17.7	11.7	13.8	12.8
	55-59	16.0	21.7	18.5	25.6	16.5
	60-64	17.1	32.5	24.2	25.7	25.8
	65+	12.1	26.4	27.6	27.4	29.0
No Regular	<30	1.5	0.7	0.7	0.8	0.1
Income	30-44	1.8	0.9	1.1	0.9	1.3
	45-49	2.2	1.3	1.4	0.8	1.1
	50-54	2.1	0.7	0.8	0.4	1.0
	55-59	5.0	0.5	1.3	1.5	0.9
	60-64	7.0	0.5	1.4	0.7	1.1
	65+	5.1	0.3	0.7	0.4	0.2

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

The 'other' category includes superannuation; annuities; interest; dividends; bonds; royalties; debentures; trust income; income from partnerships or own business; property rent; workers compensation; maintenance and road accident compensation payment. The most important components of this are income sources associated with self-employment, and for the older aged groups, income from superannuation and associated investments. As noted in the previous section, the 1982 survey used a different categorisation of self-employment income to those in later years, and so the

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[19] For the surveys 1994-95, 1995-96 and 1996-97 the following government transfers are excluded when calculating the principal source of income: Family Payment; Child Disability Allowance; Home Child Care Allowance; Disability (DVA) Pension and War Widow's Pension. For the 1990 Survey the excluded payments are: Family Allowance; Family Allowance Supplement and War Widow's Pension. For the 1986 Survey these are: Family Allowance; Family Income Supplement; Handicapped Child Allowance and War Widow's Pension. For the 1982 Survey the excluded are: Family Allowance; War Disability Pension and War Widow's Pension.

analysis here commences with results from 1986. Figure 5.2, Figure 5.2 and Figure 5.3 present the data in Table 5.1 in graphical format (for older men only).

The proportion of each age group that has wages and salary as their principal source of income is virtually unchanged over time, the exception of men age 45-49 in the last year for whom the percentage dropped by 7.7 percentage points between 1995-96 and 1996-97.[20] Likewise, in each age group, the percentage with no regular income has stayed fairly constant over time and is relatively small. Over all income sources, the less than 30-year old age group has retained a fairly stable primary income distribution since 1986.

For men aged 65 and over, there is less reliance in 1996-97 on government income support than there was in 1986. Over time, men in the two older age groups are looking increasingly to 'other' income sources for their main portion of income. For most groups the 'other' category reached a peak in 1990 – just prior to the recession when interest rates were very high. In particular, for men aged 65 and over the percentage receiving their principal income from other sources, has more than doubled, amounting to a reduction in the pressure on government to provide retirement funding. Approximately the same proportion of the 65+ group is not employed in 1995-96 as in 1986, but a smaller proportion are relying on the government as the main source of their income.

While men of retirement age are drawing on government to a lesser degree, younger age groups appear to be using government benefits to a greater degree (eg. 55-59 year olds) or remain unchanged in their principal use of government transfers (eg. 50-54 year olds).

These are the groups that also show little overall change in the importance of other income sources in their household income. If superannuation is permitting early retirement for some, the aggregate impact seems to be small among those under age 60. There is more evidence of an increased tendency to rely upon 'other' income sources among the 60-64 year age group which may be reflecting superannuation income (and associated investment income).

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[20]   This appears to be statistically significant, with an approximate standard error for the difference in these percentages of 2.6.

Figure 5.1 Principal Source of Household Income: Wage and Salary, Males

Figure 5.2 Principal Source of Household Income: Government Transfer, Males

Figure 5.3 Principal Source of Household Income: Other Income Source, Males

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Figure 5.4, Figure 5.5 and Figure 5.6 plot the changes in the principal source of household income over time for older women. This information for all women is given in Table 5.2. The results for the females are similar to that of the men. There has been little change in the proportion of each age group that are wage and salary earners, although a small decrease is observed for women aged 55-59 and a small increase for those women aged 60-64.

Table 5.2   Principal Source of Household Income, Females 1986-1996-97

	Age	Survey Year				
		86	90	94-95	95-96	96-97
Wage/Salary	<30	79.9	78.3	79.3	78.7	79.5
	30-44	75.8	75.7	75.6	75.0	73.0
	45-49	77.7	76.7	78.0	79.7	75.5
	50-54	68.4	67.1	70.5	64.0	69.7
	55-59	52.8	46.0	50.7	51.0	47.0
	60-64	23.3	26.0	23.3	23.7	29.6
	65+	11.8	10.0	11.8	10.8	12.1
Government	<30	11.3	11.8	11.8	13.3	13.1
Transfer	30-44	9.3	9.7	12.4	12.0	14.7
	45-49	10.1	8.3	10.8	8.9	12.6
	50-54	15.6	13.5	17.1	18.6	16.4
	55-59	29.2	27.4	31.2	25.3	28.4
	60-64	56.4	45.4	50.4	48.6	46.7
	65+	72.2	65.9	65.8	64.5	57.4
Other	<30	7.0	9.3	7.9	7.7	7.3
Income	30-44	12.1	13.7	11.1	12.2	11.3
	45-49	10.6	14.4	10.4	10.8	11.5
	50-54	11.2	18.5	11.2	17.1	13.6
	55-59	12.9	25.9	16.5	22.8	23.2
	60-64	13.9	27.8	25.7	26.1	23.1
	65+	10.5	23.8	21.4	23.9	28.6
No Regular	<30	1.8	0.6	1.0	0.3	0.2
Income	30-44	2.9	0.9	0.9	0.8	1.0
	45-49	1.7	0.6	0.8	0.6	0.5
	50-54	4.8	0.9	1.3	0.4	0.3
	55-59	5.2	0.7	1.6	0.9	1.5
	60-64	6.5	0.8	0.6	1.7	0.6
	65+	5.5	0.3	1.0	0.8	1.9

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Women for whom government transfers are the principal source of household income have fallen as a proportion of each older age group (these proportions have increased slightly for women <55 and remained steady for those aged 50-54). For women aged 60-64 and 65+, much of this decrease has come recently, for example for women aged 65+ the proportion fell from 64.5 to 57.4 between the last two surveys.

Figure 5.4 Principal Source of Household Income: Wage and Salary, Females

Figure 5.5 Principal Source of Household Income: Government Transfer, Females

Figure 5.6 Principal Source of Household Income: Other Income Source, Females

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

The 'other' income category has become the principal source of household income for increasing numbers of women over the surveyed period. This is true of all the older age groups; while for those aged less than 50 years, the proportions has remained quite steady. As seen in Figure 5.3 for the men, there has been a quite dramatic increase in the proportion of women aged 60-64 and 65+ whose household income principally comes from other sources (increasing 9.2 and 18.1 percentage points respectively). This trend is also seen for the women aged 55-59, however not for the corresponding male group.

Table 5.3   Principal Source of Household Income of Not Employed by Age by Sex, 1986 and 1996-97

Employment Status	Age	Principal Source of Household Income				100%
		Wage or Salary	Government Transfer	Other Income	No Regular Income	
			Males			
1986	<30	45.2	41.4	8.1	5.3	100
	30-44	24.2	61.3	8.0	6.5	100
	45-49	28.3	52.6	4.7	14.4	100
	50-54	33.0	50.9	10.6	5.5	100
	55-59	27.2	41.6	17.2	14.0	100
	60-64	15.4	60.5	13.9	10.2	100
	65+	9.5	75.7	10.0	4.8	100
1996-97	<30	47.7	38.1	13.9	0.4	100
	30-44	25.0	61.1	10.3	3.7	100
	45-49	23.5	56.7	16.2	3.5	100
	50-54	21.9	68.6	6.0	3.5	100
	55-59	25.7	58.0	15.0	1.3	100
	60-64	16.9	57.7	24.7	0.7	100
	65+	9.1	64.5	26.2	0.2	100
			Females			
1986	<30	62.8	26.4	7.6	3.3	100
	30-44	64.2	20.9	9.4	5.4	100
	45-49	66.8	20.9	8.6	3.7	100
	50-54	56.6	27.7	8.2	7.5	100
	55-59	39.0	40.5	13.2	7.2	100
	60-64	20.2	60.8	12.1	6.9	100
	65+	11.3	73.1	10.0	5.6	100
1996-97	<30	54.6	35.3	9.8	0.3	100
	30-44	52.6	33.9	11.5	1.9	100
	45-49	52.1	36.6	10.7	0.6	100
	50-54	50.6	35.3	14.1	0.1	100
	55-59	34.8	41.9	21.6	1.8	100
	60-64	20.2	54.8	24.3	0.7	100
	65+	12.0	58.1	28.0	1.9	100

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Table 5.3 provides further information on the principal source of household income in 1986 and 1996-97 for people who are not employed. Apart from less those aged under 30, the clear majority of non-employed men in all age groups have government benefits as their principal source of household income. However, for young not employed women, the primary source of household income is often wages and salaries of other household members.

For both men and women, the proportion of not employed people depending principally on the government for household income has fallen dramatically. Some 75.7 per cent of men aged 65 and over were dependent on the government for the majority of their household income in 1986, compared with only 64.5 per cent in 1996-97. On the other hand, the proportion of not employed men aged 50-59 primarily getting their income from government transfers has increased. Although this is true also of women until 50-54, this is likely to be due to a change in behaviour generally of women (ie. women are now more likely to look for work rather than settle for being out of the labour force).

Nonetheless, it is the increasing importance of 'other' income for the older not employed that is most dramatic in Table 5.3. Around a quarter of those aged 60-64 and not employed now rely on this income source – almost double the rate of a decade earlier. From this perspective, the increased reliance upon superannuation that this suggests implies a reduction in the cost of government income support payments for this age group. The main offset to this growth is the declining importance of the 'no regular income' category. One possible explanation is that increasing numbers of people are now investing their super lump sums in annuities or income producing investments rather than consuming their lump sum.

5.3   Trends in Average Replacement Rates 1982 to 1996-97

What are the outcomes of these income packages for the incomes of people with different levels of labour market attachment? How have these varied over time? We begin with an examination of the trends in average income since 1982. In Section 5.4 we continue with a more detailed examination of the distribution of incomes in 1996-97 (taking account of household needs).

In Table 5.4 we show the ratio of average gross household income of not-employed to employed men and women for the period 1982 to 1996-97. Gross income is total household income, with no income tax deducted. (Income tax data is not available in all years, see below for results deducting income tax). We denote this ratio as the 'average replacement rate' as it provides an indicator of the relative attractiveness of employment versus non-employment for the average person.

Note that this is not a 'true' replacement rate, as the two populations are not strictly comparable. Ideally, one would wish to simulate the income that a given employed person would receive if they were not working (or the income that a given non-employed person would earn if they started work). However, it does show the relative incomes of the average non-worker compared to the average worker, and so is a useful indicator of trends over time in the relative attractiveness of these two labour market states.

Note also that the income definition used here is household rather than personal income. Household income is preferred here as it provides a better indicator of living standards. For example, it takes into account the probability of a spouse working. Increasing women's employment means that if men and women cease employment together, the income drop will be larger (unless compensated by other mechanisms).

The most noticeable feature of these gross income replacement rates is their constancy over time, particularly for those aged 45 to 64. The only replacement rates that are consistently high are those of the under 30 age group. These results are being skewed

for the young people, possibly because many who are not employed will still be living with their parents and consequently have high household income relative to the 30-44 group who are likely to be without their parents.[21]

Table 5.4   Household Gross Income Average Replacement Rates by Sex, 1982 to 1996-97

Age	Year of Survey					
	82	86	90	94-95	95-96	96-97
Males (Gross Household Income Replacement Rate)						
<30	68	65	68	68	67	61
30-44	42	41	46	41	43	48
45-49	42	41	41	37	45	43
50-54	40	43	40	43	32	36
55-59	47	55	47	47	51	45
60-64	47	49	46	48	54	53
65+	55	60	44	55	57	52
Females (Gross Household Income Replacement Rate)						
<30	64	61	57	55	65	59
30-44	72	66	62	63	62	67
45-49	79	65	67	67	71	61
50-54	74	59	70	64	54	61
55-59	64	58	62	68	66	69
60-64	48	60	56	58	57	58
65+	69	54	43	48	52	96

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

For the years 1982, 1990 and 1996-97 it is possible to calculate household income, net of tax. Table 5.5 shows the corresponding net income replacement rates by age and sex.[22].

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[21]   In addition, (Borland, 1998) shows that earnings rates are relatively lower for people less than 30, than those aged 35-44, and have been falling. In 1985 wages for 15-19 and 20-24 were 45 per cent and 73 per cent respectively of those aged 35-44, and in 1995 they earned 40 per cent and 66 per cent respectively.

[22]   Income taxes are simulated for 1982 and 1990 by the SPRC and for 1996-97 by the ABS. Our thanks to Gerry Redmond for undertaking these calculations.

Table 5.5   Household Net Income Average Replacement Rates by Sex, 1982 to 1996-97

Sex	Age	1982	1990	1996-97
Male	<30	69	66	64
	30-44	52	54	54
	45-49	46	50	49
	50-54	48	49	46
	55-59	56	52	51
	60-64	54	54	56
	65+	61	52	62
Female	<30	64	59	63
	30-44	74	65	68
	45-49	80	71	63
	50-54	76	72	69
	55-59	67	66	66
	60-64	57	60	63
	65+	70	50	94

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

Again, the rates vary little over this time period. They do vary with age however (Figure 5.7 and Figure 5.8). For men, replacement rates fall over prime age years then increase those aged 55 years and over. For women, replacement rates peak at the age of 45-49 then decline as they get older.[23] Also, replacement rates are clearly higher for women generally than men, indicating that the difference between work and non-work is smaller for women.

Figure 5.7 Male Household Net Income Replacement Rates

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

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[23]   The varied replacement rates for women aged over 65 could be due to the very small sample of women who are employed beyond the age of 65.

Figure 5.8 Female Household Net Income Replacement Rates

Source: ABS Income Distribution Surveys, confidentialised unit record files, various years.

5.4 Household Incomes, Expenditure and Wealth

Whilst average replacement rates give an indication of the relative attractiveness of work versus non-work, the incomes from which they are calculated are a poor indicator of living standards as they do not take account of variations in household needs. Do the different family sizes of the employed and not employed change conclusions of their relative living standards? Here we examine living standards in 1996-97 in more detail using a commonly used but simple equivalence scale (the square root of household size) to adjust incomes.

Table 5.6 Household Equivalent Income Means by Labour Force Status, 1996-97

Age	Wage/Salary	Self Employed	Unemployed	Not in the Labour Force
		Males		
<30	602.42	439.63	362.06	354.37
30-44	511.24	398.38	234.67	301.81
45-49	585.39	473.29	245.26	321.50
50-54	600.52	548.61	240.24	274.53
55-59	594.78	468.98	302.48	293.86
60-64	501.60	413.93	219.42	279.02
65+	718.53	381.46	112.43	299.23
		Females		
<30	598.75	486.52	382.87	329.73
30-44	534.99	374.42	275.73	324.98
45-49	584.89	538.40	290.62	373.40
50-54	639.51	427.24	322.22	398.04
55-59	536.91	415.87	290.85	359.20
60-64	512.09	322.70	.	294.51
65+	278.01	366.79	.	313.53

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

The self-employed generally appear to earn less than wage and salary earners. Men who remain in employment past the age of 64 appear to be the high-income earners. This agrees with a finding of the OECD (1999); that among men who retire older (between the ages of 55 and 64), a lower proportion rely on government benefits as their principal source of income, than of those who retire younger (before the age of 55).

Table 5.7   Mean Net Household income, by Principal Source of Gross Household Income, 1996-97

Age	Principal Source of Household Gross Income (net household income $)			
	Wage / Salary	Government Transfer	Other Income	No Regular Income
	Males			
<30	1061.05	419.64	857.86	0.00
30-44	878.06	416.66	810.29	59.88
45-49	1036.55	327.93	933.39	46.55
50-54	1071.92	351.73	815.44	0.00
55-59	953.59	326.18	785.19	81.11
60-64	855.99	300.28	506.69	31.17
65+	921.01	311.72	610.90	0.00
	Females			
<30	1013.06	387.04	946.29	0.00
30-44	896.52	388.77	870.87	58.70
45-49	1025.25	340.31	929.35	0.00
50-54	1055.04	351.92	736.25	0.00
55-59	826.76	346.08	690.13	39.86
60-64	759.68	303.85	485.12	79.51
65+	927.01	286.80	564.48	159.76

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

An employed person's household receives substantially more money per week than a non-employed person's does. This occurs at all age levels. This is a natural conclusion given the table on spousal labour force status, which showed that generally working men are associated with working women and non-working men with non-working women.

For wage and salary earners, income peaks at 50-54, when retirement is disregarded. The 50-54 age group have the highest average household income, when the reference person is a wage and salary earner.

Figure 5.9 and Figure 5.10 plot Table 5.8 for men and women. Here, equivalent income is used to investigate differences between the employed and not employed with respect to which quartile of income they fall. The figures clearly show the divide between the employed and not employed (each line represents a different age group, dotted lines in the figures correspond to employed persons and the solid lines are the not employed).

Table 5.8 Per Cent of Each Age Group in Each Quartile of Household Income (Net and Equivalent Income), Males 1996-97

Employment Status	Age	% of Age Group in Quartile				Total
		1	2	3	4	
		Males (Household Equivalent Income)				
Employed	<30	7.1	19.1	31.4	42.4	100
	30-44	14.5	30.1	31.1	24.4	100
	45-49	9.2	25.1	28.5	37.2	100
	50-54	11.4	14.7	31.7	42.2	100
	55-59	7.9	24.8	33.5	33.9	100
	60-64	14.2	27.5	33.3	25.0	100
	65+	21.5	30.8	21.5	26.2	100
Not Employed	<30	41.9	27.1	20.8	10.2	100
	30-44	66.5	23.2	6.4	3.9	100
	45-49	59.7	23.4	11.7	5.2	100
	50-54	61.3	24.2	8.1	6.5	100
	55-59	55.3	29.1	10.7	4.9	100
	60-64	64.5	21.1	9.0	5.4	100
	65+	58.4	27.4	9.1	5.1	100
		Females (Household Equivalent Income)				
Employed	<30	6.1	20.3	32.0	41.7	100
	30-44	13.1	26.4	33.0	27.5	100
	45-49	7.9	19.6	30.0	42.5	100
	50-54	4.9	24.1	29.0	42.0	100
	55-59	13.6	32.8	27.2	26.4	100
	60-64	15.2	28.3	28.3	28.3	100
	65+	40.0	40.0	15.0	5.0	100
Not Employed	<30	43.8	30.7	18.1	7.4	100
	30-44	46.3	35.0	13.4	5.3	100
	45-49	44.0	26.8	16.6	12.7	100
	50-54	39.8	24.1	19.9	16.3	100
	55-59	46.2	26.4	18.8	8.7	100
	60-64	56.7	27.2	12.4	3.7	100
	65+	59.3	25.7	8.3	6.8	100

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 5.9 Cumulative Percentage of Males in Quartiles of Equivalent Household Income

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Figure 5.10   Cumulative Percentage of Females in Quartiles of Equivalent Household Income

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Consistently, higher proportions of not employed people find themselves in the lower quartiles than employed people do. Two exceptions are the under 30 year old not employed men and employed women aged 65+. The under 30 year old men stand out as having lower proportions of men in the lower quartiles, making them better off than other not employed men of different ages. Employed women aged 65+ are much worse off than their younger counter parts, so much so that they are almost as poorly off as the not employed 65+ women (though there are only small number of employed

women aged 65+). There is more variation in the female not employed distribution than there is in the male not employed distribution, while comparing the employed men with females one sees a similar distribution.

Table 5.9   Mean Household Housing Wealth by Detailed Labour Force Status, by Age and Sex 1996-97

	Labour Force Status (Housing Wealth ($000))			
Age	Wage and Salary Earners	Self Employed	Unemployed	Not in the Labour Force
		Males		
<30	98	173	121	213
30-44	125	123	81	110
45-49	159	191	135	140
50-54	220	171	218	141
55-59	175	218	141	147
60-64	192	180	146	153
65+	260	213	110	168
		Females		
<30	130	133	142	115
30-44	136	120	102	138
45-49	172	197	176	161
50-54	237	160	267	196
55-59	178	157	173	167
60-64	269	164	0	161
65+	205	307	0	163

Notes: Household housing wealth is defined as the current sale price (in dollars) for the dwelling (if a person owns their home) less what they owe in mortgage repayments. The sample here is only those people who have responded as having a tenure type of owner outright or owner mortgaged.

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

How do the housing wealth levels of older workers compare to that of non-workers? These patterns are shown in Table 5.9. It is notable that the wealth level of older non-workers is substantially less than that of workers. There is little significant difference between those unemployed and those not in the labour force.

6   Flows In and Out of Employment

To what extent does job loss for an older worker translate into permanent non-employment? Do retrenched older workers manage to maintain contact with the labour market? What characteristics of the job or worker are associated with job loss and continued non-employment?

In this section we address these issues using data from the ABS Income Distribution Survey and the ABS 1994 Labour Mobility Survey. The first data source is used in Section 6.1 to establish broad patterns of labour market transitions and the second is drawn upon in Section 6.2.

Key findings are:

- Even though most people not in the labour force remain in this state over a seven month period, there is still significant movement back into employment. For men in their 50s around 7 to 10 per cent move into employment and around 7 per cent into unemployment;

- Flows from full time to part time employment over a seven month period increase as men and women approach retirement age. There is also a relatively large movement from part time to full time employment for men aged 45-54;

- For unemployed men aged 55-59 the probability of exit from the labour force over a seven month period is about the same as the probability of re-employment. For those aged 60-64, about half leave the labour force;

- Over a twelve month period (in 1994), the probability of an employed person being retrenched shows a U-shaped pattern with age. Just under 5 per cent of all workers aged 55 to 64 were retrenched;

- Over the same period, loss of a temporary job was the cause of job loss for 1.8 per cent of 60-64 year olds, and ill health or injury the cause of job loss for 1.9 per cent;

- Of those people who have left a job in the 12 months due to ill-health, only 13 per cent were working at the end of the period;

- For those who were retrenched, almost half are now working. However, this employment rate is only 26 per cent for those aged 55-59 and nine per cent for those aged 60-64.

- The likelihood of a person being retrenched is increased by having each of the following characteristics: male, 55 years and over, unmarried, born outside main English speaking countries and being a tradesperson or labourer.

- In addition to the above characteristics, the probability of losing a job is increased through having secondary school education or less.

- Males, people under 55 years of age and those born in a main English speaking country are more likely to be re-employed following job loss.

6.1   Patterns of Labour Mobility

Commencing with the 1993-94 survey, the ABS Income Distribution Surveys have been attached to the Labour Force Survey (LFS). The LFS interviews people in selected households every month for a period of eight months and the Income Distribution Survey is then administered to people after their last labour force survey interview. This means that in the ABS Income Distribution Surveys (selected) information is available on labour force status over the previous seven months as well as at the time of interview.

Because the LFS is dwelling based, this information is only available for people who have lived in the same household over this period. If a person has joined the household within the seven month period leading up to the income survey (eg. a new spouse or flat mate); then their labour force status of seven months ago is not available. Such people are excluded from the analysis below.

Using the 1996-97 Income Distribution Survey, we examine the flows in and out of each labour market state. We can therefore examine questions such as: what proportion of the people employed in month t-7 are still employed in the month that the survey is taken?; and of those unemployed in month t-7, what fraction find employment, remain in unemployment or drop out of the labour force? We provide data on these labour market transitions for men and women in the different age groups.

Over a seven-month period, the proportion of pre retirement-age employed men who cease employment is under ten per cent. For both men and women, the probability that an initially employed person will exit from the labour force is lowest at age 45-49. For men, the exit probability is similar at age 50-54, but increases to around five per cent for men aged 55 to 64. For women, the exit probability increases steadily with age, to around eleven per cent in the pre-retirement years.

Apart from the under 30 age group (for whom exit from education is important), the bulk of respondents who were out of the labour force in month t-7 were also out of the labour force in the survey month. This tendency increases with age.

Particularly for men, however, a substantial proportion moves from being out of the labour force to either employment or unemployment. For example, for men in their 50s, around 7 to 10 per cent move into employment and around 7 per cent into unemployment over the 7 month period. This suggests that exit from the labour force is not permanent for a substantial sub-group.[24]

The proportion of the unemployed who remain unemployed in the survey month varies with age, although it is not monotonic (note that sample sizes are small, see Table 6.1). For men in the age ranges between 45 and 59, between 10 and 20 per cent of initially unemployed men were not in the labour force 7 months later. This exit rate is much higher again for women, at around 30 to 40 per cent. For unemployed men

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[24]   This conclusion does need to be qualified with respect to unemployment. Since the labour force survey is based on an 'any responsible adult' methodology, it is possible that some people may be misclassified between unemployment and not in the labour force because the respondent is not fully aware of the extent of the other person's job search activity. However, we are not aware of any evidence evaluating the magnitude of this misclassification.

aged 55-59, the probability of exit from the labour force is about the same as the probability of exit to employment.

The probability that unemployed men will exit from the labour force dramatically increases after age 60, with more than half the unemployed men at this age leaving the labour force over a period of seven months. Only around 10 per cent find employment.

Table 6.1   Labour Force Status in Month *t*-7 by Current Labour Force Status

Month *t*-7	Age	Current Labour Force Status		NILF	Total (%)	Sample Size
		Employed	Unemployed			
			Males			
Employed	<30	91.2	4.4	4.5	100	589
	30-44	95.0	3.2	1.8	100	1031
	45-49	95.9	2.8	1.4	100	307
	50-54	96.2	2.3	1.6	100	288
	55-59	93.9	1.3	4.8	100	219
	60-64	92.7	1.9	5.4	100	104
	65+	69.9	na	30.1	100	76
Unemployed	<30	45.7	37.0	17.3	100	86
	30-44	34.1	55.5	10.4	100	53
	45-49	30.1	60.2	9.8	100	18
	50-54	51.1	29.0	19.9	100	16
	55-59	16.5	68.8	14.8	100	16
	60-64	9.5	35.6	55.0	100	11
	65+	na	32.4	67.6	100	4
NILF	<30	27.4	21.6	51.0	100	92
	30-44	14.7	7.3	78.1	100	60
	45-49	7.4	15.3	77.3	100	41
	50-54	9.6	7.0	83.4	100	32
	55-59	7.2	7.1	85.7	100	49
	60-64	3.4	0.4	96.2	100	120
	65+	0.8	na	99.2	100	487
			Females			
Employed	<30	89.6	2.1	8.2	100	528
	30-44	91.7	2.4	5.9	100	784
	45-49	94.9	0.4	4.7	100	309
	50-54	90.1	1.7	8.2	100	216
	55-59	88.6	na	11.4	100	100
	60-64	86.7	na	13.3	100	40
	65+	68.3	na	31.7	100	26
Unemployed	<30	47.8	25.5	26.7	100	49
	30-44	28.8	39.5	31.7	100	51
	45-49	46.3	19.6	34.1	100	20
	50-54	29.7	48.9	21.4	100	8
	55-59	19.2	40.7	40.1	100	11
	60-64	na	na	na	na	0
	65+	na	na	100.0	100	1
NILF	<30	25.6	9.1	65.3	100	197
	30-44	13.9	5.0	81.2	100	424
	45-49	14.2	6.1	79.8	100	94
	50-54	8.0	3.8	88.2	100	119
	55-59	4.6	0.6	94.8	100	156
	60-64	1.6	na	98.4	100	174
	65+	0.5	na	99.6	100	738

Source: ABS Income Distribution Survey, confidentialised unit record file, 1996-97.

Figure 6.1 Males: Current Labour Force Status by Age, Given Employed in Month *t*-7

Figure 6.2 Males: Current Labour Force Status by Age, Given Unemployed in Month *t*-7

Figure 6.3 Males: Current Labour Force Status by Age, Given Out of the Labour Force in Month *t*-7

Source: Figure 6.1, Figure 6.2 and Figure 6.3. ABS Income Distribution Survey, confidentialised unit record file, 1996-97.

Figure 6.4 Females: Current Labour Force Status by Age, Given Employed in Month *t*-7
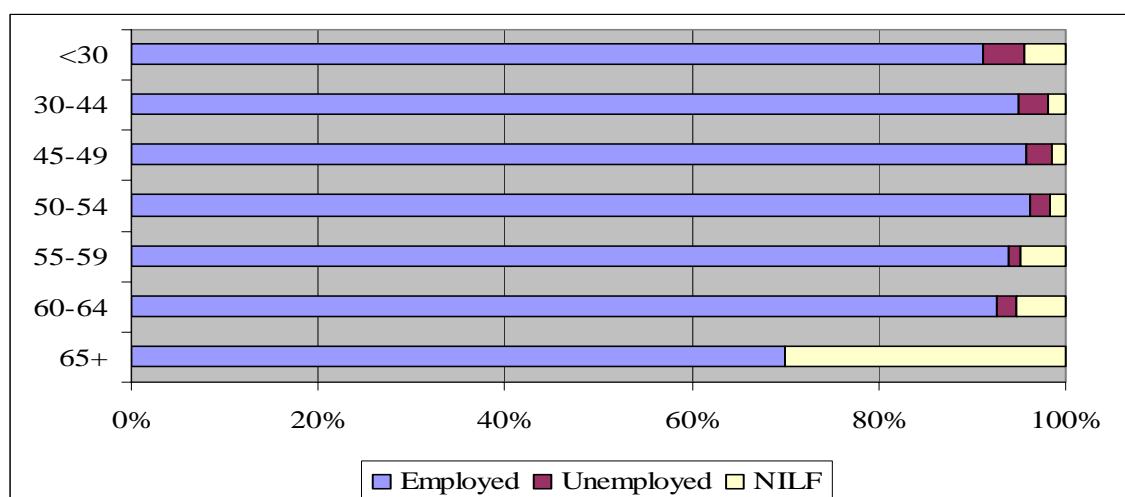

Figure 6.5 Females: Current Labour Force Status by Age, Given Unemployed in Month *t*-7

Figure 6.6 Females: Current Labour Force Status by Age, Given Out of the Labour Force in Month *t*-7

Source: Figure 6.4, Figure 6.5 and Figure 6.6. ABS Income Distribution Survey, confidentialised unit record file, 1996-97.

Further analysis, shown in Table 6.2, shows quite high flow rates between full time and part time employment. A large proportion of men less than 65 years (25 per cent and higher) move from part time to full time employment in the seven month period. Movement is highest for the group of men aged 45-54. Of men aged 65 and over who were working part time in month *t*-7, one half had left the labour force by the current period. The flow of women from part time to full time work is much weaker than for men, with higher flows for women under 50 years of age.

Table 6.2 Full/Part-time Status in Month *t*-7 by Current Labour Force Status

Month *t*-7	Current Labour Force Status					
	Age	Full-Time	Part-Time	Unemployed	NILF	Sample Size
			Males			
Full-Time	<30	89.5	3.8	3.7	3.0	482
	30-44	94.1	1.5	3.1	1.4	980
	45-49	95.2	1.1	2.6	1.2	292
	50-54	94.1	2.3	2.4	1.2	274
	55-59	92.3	2.5	1.5	3.8	196
	60-64	84.8	8.0	1.8	5.4	90
	65+	70.7	17.7	na	11.7	43
Part-Time	<30	25.8	55.3	7.5	11.4	107
	30-44	24.7	60.3	5.1	9.9	51
	45-49	35.3	52.7	6.7	5.4	15
	50-54	43.7	48.6	na	7.8	14
	55-59	24.7	61.7	na	13.6	23
	60-64	28.2	63.8	3.1	4.9	14
	65+	6.4	40.9	na	52.7	33
			Females			
Full-Time	<30	87.1	4.6	1.2	7.1	346
	30-44	84.9	8.7	2.1	4.4	419
	45-49	88.9	7.2	0.7	3.2	189
	50-54	85.2	9.8	na	5.0	130
	55-59	79.1	13.3	na	7.6	55
	60-64	84.8	na	na	15.2	16
	65+	63.7	na	na	36.3	9
Part-Time	<30	17.9	67.5	4.1	10.5	182
	30-44	11.7	77.7	2.7	7.9	365
	45-49	13.7	79.2	na	7.1	120
	50-54	7.7	75.1	4.3	12.9	86
	55-59	3.3	80.6	na	16.1	45
	60-64	6.9	81.3	na	11.8	24
	65+	5.4	65.6	na	29.1	17

There is less movement for men and women in the other direction – from full time to part time employment. For those men aged 30-59 who were working full time in month *t*-7, less than three per cent move into part time employment by the current period. However, there appears to be a pattern of increased movement from full time to part time work as retirement age approaches. Indeed, for men aged 60-64 and men 65 and over this movement is 8.0 and 17.7 per cent respectively. This pattern is similar for the women, who make this movement from full time to part time work with a probability of 13.3 per cent if aged 55-59, but with a probability of less than or equal to ten per cent if they are younger.

These findings support the idea that part time work is more of a transitional arrangement for men than women, either assisting men to retire gradually, or helping them get back into full time employment.

6.2   Reasons for Ceasing Employment and Subsequent Outcomes

Why do older workers leave employment, and what are their outcomes when they do leave? In this section we utilise data from the ABS 1994 Labour Mobility Survey (LMS), focussing on the reasons for job loss (or leaving), and subsequent outcomes. To do this, we look at the reason that a person ceased their last job, tabulated by their age. In the next section we extend the investigation to include more personal and job characteristics, such as age, occupation and industry.

The LMS is an extension of the labour force survey. The sample we use consists of those people who were employed 12 months prior to the survey period of February 1994. Over the 12 months, some of these people ceased employment, and of these, some returned to work and some remained non-employed.

As Table 6.3 shows, the overall probability of staying in a job (not ceasing) increases with age. A person aged 20-24 years has a 30 per cent chance of ceasing their job while a person aged 60-64 has around half this chance, at 16 per cent. For the group who did cease their job in the last year, the table presents the reasons people gave for ceasing it.

Table 6.3   Reason for Ceasing Job over a 12-month Period, by Age

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All
Did not cease job	*69.5*	*69.3*	*74.8*	*78.6*	*82.4*	*85.0*	*86.8*	*87.6*	*85.6*	*83.9*	*80.1*
Ceased job^											
Job Loser											
Retrenched	6.1	7.4	4.8	5.0	4.5	3.8	3.8	4.0	4.7	4.6	4.8
Job was temporary or seasonal*	2.8	2.2	1.6	1.7	1.4	1.1	0.8	0.9	1.1	1.8	1.5
Own ill health or injury	0.6	0.4	0.3	0.6	0.5	0.5	0.6	1.2	1.6	1.9	0.7
Total Job Loser	*9.5*	*10.0*	*6.7*	*7.2*	*6.4*	*5.4*	*5.2*	*6.1*	*7.4*	*8.2*	*7.0*
Job Leaver											
Job was temporary/seasonal#, retired, new business, better job, family or other reasons	15.1	12.8	10.7	8.1	5.5	4.8	3.6	3.2	4.7	5.8	7.4
Unsatisfactory work conditions	4.5	3.2	2.3	1.7	1.4	1.1	0.9	0.8	0.6	0.3	1.7
Employment, personal or other	1.5	4.8	5.5	4.4	4.4	3.8	3.6	2.3	1.7	1.7	3.9
Total Job Leaver	*21.0*	*20.7*	*18.5*	*14.3*	*11.2*	*9.6*	*8.1*	*6.3*	*7.0*	*7.9*	*13.0*
Sample Size	1,825	4,069	4,245	4,700	4,643	4,568	4,272	2,886	1,832	1,059	34,099

Source: ABS 1994 Labour Mobility Survey. Sample: Those employed 12 months ago.

Notes: ^ If more than one job ended in 12 months, this refers to the most recent.
          * Indicates did not leave temporary/seasonal job to return to studies.
          # Indicates left temporary/seasonal job to return to studies.

Within this decline in total likelihood of ceasing a job, there are different stories depending on whether the person ceased the job of their own accord, which we term a

'job leaver', or whether they did not, a 'job loser'. The probability of leaving a job decreases with age. While around 20 per cent of younger people left their job of their own accord in the 12-month period, only around 7 per cent of older people did so.

The proportion of people losing their job shows a U-shaped relationship with age (Figure 6.7) with the prime age working years (25 to 50) having the lowest probability of being a job loser.

The specific reasons that people give for either losing or leaving their job also vary by age. Retrenchment is the most likely cause of job loss for all age groups. The likelihood that a person is retrenched from their job is highest for those people aged 15-19 and 20-24 (at 6-7%). The chance of being retrenched in a 12-month period reaches its lowest point among workers aged 40-49 (at 3.8%), rising to 4.7 per cent for those 55-59.

Ill health becomes a more important factor in job loss as age increases. On the other hand, older workers are less likely to lose a job due to it being seasonal or temporary in nature than are younger workers.

Fewer older people left their last job due to poor work conditions than young people (Table 6.3). The proportion of people leaving for another job either for employment personal or other reasons, is highest for people of prime working age. Unfortunately, as the ABS does separate out retirement, this category is quite heterogenous and difficult to interpret.

Figure 6.7 Probability of Losing Job Over a 12-month Period, by Age

Source: ABS 1994 Labour Mobility Survey. Sample: Those employed 12 months ago.

Table 6.4 below uses the sample of people who were employed 12 months ago, and looks at their current employment rates by their reason for ceasing their last job. Job leavers generally have much higher current employment rates than job losers. People who have ceased their last job due to their own ill health or injury have the lowest

current employment rates. The impact that retrenchment has on current employment rates varies dramatically with age, as is shown in Figure 6.8. The proportion of people retrenched from their last job who are currently employed, falls as age increases, especially once a person reaches 55.

Table 6.4 Current Employment Rates by Reason Ceased Last Job

Reason Ceased Last Job	Age (current employment rate %)										
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All
Job Loser											
Retrenched	56.6	53.5	53.0	40.1	50.4	38.1	47.9	42.8	25.6	9.4	45.8
Job was temporary / seasonal*	30.6	52.0	44.2	38.1	24.2	36.2	20.2	44.2	17.0	0.0	35.7
Own ill health or injury	12.0	27.2	16.8	19.7	21.2	17.5	4.0	14.1	2.3	0.0	13.0
Job Leaver											
Job was temporary / seasonal#, or retired, new business, better job, family or other reasons	57.7	71.6	69.9	62.0	58.7	68.3	64.2	51.9	17.4	12.4	62.3
Unsatisfactory work conditions	51.1	67.4	66.6	75.0	78.6	65.0	69.5	61.9	37.4	0.0	66.0

Source: ABS 1994 Labour Mobility Survey. Sample: Sample is those people employed 12 months ago who have ceased a job. Those people who responded that they ceased their last job for 'personal', 'employment' or 'other' reasons are all currently employed (by definition, by the ABS), so we exclude these responses from this table.

Notes: *   Indicates did not leave temporary/seasonal job to return to studies.
    #   Indicates left temporary/seasonal job to return to studies.

Figure 6.8 Current Employment Rates of Those Who Ceased Their Last Job Due to Retrenchment, by Age

Source: ABS 1994 Labour Mobility Survey. Sample: Those employed 12 months ago.

6.3   Multivariate Analysis of Job Loss

In this section we estimate three logistic regression models using the LMS 94, using the same independent variables, and varying the dependent variable and population. The aim is to establish which personal and job characteristics have an independently

significant effect on job loss and subsequent re-employment. Regression 1 estimates the probability of retrenchment as a function of a person's personal and job characteristics. Regression 2 is a more general model, estimating the probability of job loss. Finally, Regression 3 uses the sample of people who lost their job in the previous twelve months, and estimates the probability that they were currently employed. For all three regressions in this section, we exclude those in temporary or seasonal employment at month (-12) because of their likelihood of ceasing employment. We restrict the sample to those aged 30 to 64 years.

Table 6.5 details the results from Regression 1. Characteristics which increase the probability of retrenchment include: being male, not married, being older than 50-54, being born outside the main English speaking countries[25], being a tradesperson operator or labourer (as opposed to a professional), being in the manufacturing energy communication or construction industries (as opposed to the finance industry).

Importantly, even when other characteristics are controlled for, people aged under 40 are significantly less likely to be retrenched than people aged 50-54 (approximately ten percentage points). The probability of retrenchment for 45-49 year olds is no different than for 50-54 year olds, as is the case for people aged over 55 years. This shows that there is a definite split in the prevalence of retrenchment between older and younger workers.

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[25]   The variable country of birth indicates whether a person was born in Australia, Other main English speaking countries (UK, Ireland, New Zealand, Canada, South Africa and USA), or born elsewhere.

Table 6.5   Regression 1: Probability of Being Retrenched

Population: Employed 12 Months Ago
Control: Australian Born, Aged 50-54, University Educated, Occupation: Professional, Finance Industry

Observations:		3617			
Currently Employed:		1008			
Mean Probability:		0.28			
bxbar:		-0.951			
Variable	Significance	Coefficient Estimate	Standard Error	t-Statistic	Avg Marginal Effect[26]
Intercept	***	-1.35	0.23	-5.92	n/a
MALE	***	0.32	0.09	3.43	0.063
MARRIED	*	-0.17	0.09	-1.83	-0.034
AGE					
Aged 30-34	***	-0.52	0.14	-3.63	-0.103
Aged 35-39	***	-0.45	0.15	-3.06	-0.090
Aged 40-44	**	-0.35	0.15	-2.30	-0.069
Aged 45-49		-0.13	0.15	-0.87	-0.027
Aged 55-59		0.04	0.18	0.20	0.007
Aged 60-64		-0.27	0.22	-1.26	-0.055
COUNTRY OF BIRTH					
Main English Speaking		0.03	0.11	0.31	0.007
Other Born	***	0.39	0.11	3.62	0.078
EDUCATION					0.000
Trade/Diploma		0.14	0.14	1.01	0.029
School or Less		0.11	0.14	0.82	0.023
OCCUPATION					
Manager		-0.22	0.19	-1.15	-0.044
Paraprofessional		0.29	0.21	1.39	0.057
Tradesperson	***	0.49	0.18	2.70	0.098
Clerk		0.28	0.18	1.61	0.057
Sales		0.15	0.18	0.82	0.030
Operator	***	0.67	0.20	3.31	0.132
Labourer	***	0.71	0.18	4.01	0.140
INDUSTRY					
Agriculture		0.22	0.25	0.88	0.044
Mining		0.30	0.34	0.89	0.061
Manufacturing	**	0.38	0.16	2.38	0.075
Energy	**	0.70	0.31	2.25	0.137
Construction	***	0.54	0.18	3.02	0.106
Trade	*	0.26	0.15	1.74	0.053
Transport		0.13	0.20	0.62	0.025
Communication	**	0.66	0.26	2.57	0.131
Defence		-0.15	0.21	-0.70	-0.030
Community	*	-0.32	0.16	-1.94	-0.064
Recreation		0.23	0.18	1.25	0.046

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

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[26]   Average marginal effects are calculated in the same manner as in Section 4 (refer to footnote 16).

The model was also estimated with interaction terms of each variable, with the dummy 'young' which takes a value one if the person was less than 50 years of age. For Regression 1 the interaction terms were found to be jointly significant at the 1 per cent level[27], but were insignificant in Regressions 2 and 3. These models are not presented, but for Regression 1 the notable effects of adding the interaction terms are: an increase in the marginal effect of being male, from 6.3 to 12.6 percentage points; and the resultant insignificance of birthplace for older people.

Table 6.6 presents the results of Regression 2, where the dependent variable is the probability of losing a job. Results are not very different to the first model. Having secondary schooling or less education (as opposed to a university education) increases one's chance of losing their job. Ceasing a job due to illness is more common amongst people aged 50 and over, this was seen in Section 6.2. Regression 2 controls for the characteristics of the job (which may influence the onset of illness) and corroborates this finding strongly.

The finding that people working in more physically intensive occupations or industries are more prone to job loss than others, persists. It is clear too, that people born outside the main English speaking countries are more likely (by ten percentage points) than Australian born people to lose their jobs.

The third regression takes the subset of people who were employed twelve months ago and have subsequently lost a job. The model estimates the probability that a person is currently employed based on the same personal and job characteristics as used previously. Only 37 per cent of recent job losers are currently employed. Results from the regression are presented in Table 6.7.

Males are much more likely than females to be re-employed following job loss (by some 14 percentage points). People over 55 years of age are much less likely to find employment following job loss, than even those aged 50-54. Those people who are born in non-english speaking countries are also significantly less likely to find re-employment. People whose last job was in the agriculture industry are significantly less likely to be currently employed.

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[27]   The test statistic is $\lambda = -2(U-R)$ where U represents the likelihood function of the unrestricted model, and R the restricted model in which the coefficients on the interaction terms are forced to zero. This is tested against the χ^2 statistic with 24 degrees of freedom, the number of restrictions imposed. In Regression 1, U= -2002.87 and R= -2024.67.

Table 6.6   Regression 2: Probability of Losing Job[28]

Population: Employed 12 Months Ago
Control: Australian Born, Aged 50-54, University Educated, Occupation: Professional, Finance Industry

Observations:	3617				
Currently Employed:	1191				
Mean Probability:	0.33				
bxbar:	-0.711				

Variable	Significance	Coefficient Estimate	Standard Error	t-Statistic	Avg Marginal Effect
Intercept	***	-1.08	0.22	-4.88	n/a
MALE	*	0.16	0.09	1.83	0.036
MARRIED	*	-0.17	0.09	-1.95	-0.038
AGE					
Aged 30-34	***	-0.82	0.14	-5.89	-0.174
Aged 35-39	***	-0.72	0.14	-5.05	-0.155
Aged 40-44	***	-0.60	0.15	-4.07	-0.129
Aged 45-49	**	-0.32	0.15	-2.13	-0.070
Aged 55-59		0.16	0.18	0.93	0.036
Aged 60-64		-0.05	0.21	-0.26	-0.012
COUNTRY OF BIRTH					
Main English Speaking		0.06	0.11	0.61	0.014
Other Born	***	0.48	0.11	4.49	0.104
EDUCATION					0.000
Trade/Diploma		0.20	0.14	1.48	0.045
School or Less	**	0.28	0.13	2.08	0.062
OCCUPATION					
Manager		-0.11	0.18	-0.59	-0.024
Paraprofessional	*	0.37	0.20	1.88	0.081
Tradesperson	***	0.67	0.18	3.79	0.144
Clerk		0.27	0.17	1.58	0.059
Sales		0.14	0.18	0.79	0.031
Operator	***	1.00	0.20	5.09	0.210
Labourer	***	1.00	0.17	5.82	0.209
INDUSTRY					
Agriculture		0.25	0.24	1.04	0.055
Mining		0.16	0.34	0.48	0.036
Manufacturing	***	0.44	0.15	2.88	0.097
Energy		0.43	0.31	1.37	0.094
Construction	***	0.60	0.17	3.43	0.129
Trade	*	0.25	0.15	1.74	0.056
Transport		-0.03	0.20	-0.15	-0.007
Communication	*	0.50	0.26	1.92	0.108
Defence		-0.18	0.21	-0.88	-0.041
Community		-0.16	0.16	-1.02	-0.035
Recreation		0.23	0.18	1.31	0.051

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

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[28]   'Job Loser' category includes people who have been retrenched or ceased work due to illness, since those ceasing due to having a seasonal or temporary job have been excluded from the analysis.

Table 6.7   Regression 3: Probability of Being Currently Employed

Population: Employed 12 Months Ago, was a Job Loser in last year
Control: Australian Born, Aged 50-54, University Educated, Occupation:
Professional, Finance Industry

Observations:	1191				
Currently Employed:	437				
Mean Probability:	0.37				
bxbar:	-0.545				
Variable	Significance	Coefficient Estimate	Standard Error	t-Statistic	Avg Marginal Effect
Intercept		-0.46	0.38	-1.21	n/a
MALE	***	0.60	0.16	3.87	0.136
MARRIED		0.06	0.15	0.39	0.014
AGE					
Aged 30-34		0.23	0.22	1.05	0.054
Aged 35-39	**	0.57	0.23	2.48	0.129
Aged 40-44		0.12	0.24	0.49	0.027
Aged 45-49		0.35	0.23	1.48	0.080
Aged 55-59	***	-0.99	0.30	-3.26	-0.216
Aged 60-64	***	-2.20	0.50	-4.37	-0.389
COUNTRY OF BIRTH					
Main English Speaking		-0.14	0.18	-0.77	-0.033
Other Born	**	-0.42	0.17	-2.44	-0.097
EDUCATION					0.000
Trade/Diploma		0.01	0.25	0.04	0.002
School or Less		-0.35	0.24	-1.43	-0.080
OCCUPATION					
Manager		-0.03	0.34	-0.09	-0.007
Paraprofessional		0.01	0.36	0.03	0.003
Tradesperson		-0.34	0.32	-1.08	-0.079
Clerk		-0.23	0.32	-0.73	-0.053
Sales		0.02	0.33	0.07	0.005
Operator		-0.15	0.34	-0.46	-0.036
Labourer		-0.37	0.31	-1.19	-0.084
INDUSTRY					
Agriculture	**	-0.93	0.46	-2.00	-0.204
Mining		0.90	0.58	1.55	0.199
Manufacturing		0.11	0.26	0.42	0.025
Energy		0.14	0.48	0.29	0.033
Construction		-0.12	0.29	-0.43	-0.029
Trade		-0.23	0.26	-0.86	-0.052
Transport		-0.13	0.34	-0.39	-0.031
Communication		-0.08	0.43	-0.19	-0.019
Defence		-0.11	0.38	-0.29	-0.026
Community		-0.36	0.28	-1.27	-0.082
Recreation		-0.21	0.31	-0.69	-0.049

Notes: ***=Indicates significance at the 1 per cent level, **=5 per cent, *=10 per cent.

7   The Geography of Older Workers' Employment

A key consideration in the development of policies to assist the labour market outcomes of particular demographic groups is the geographic distribution of the target population. To what extent do the employment patterns of older workers vary across the regions of Australia? Are these patterns different from those found for younger workers? This section examines these questions using data from the 1 per cent sample file from the 1996 Census.

We find that there is indeed substantial variation in the employment rates for older workers across regions. However, for the most part, this largely follows the same geographic patterns as found for younger workers.

Table 7.1 shows employment rates for men and women aged 45-64 for some 40 different regions in Australia.[29] Employment rates are defined as the number of employed people divided by the total population of that age and sex. The non-metropolitan regions are shaded grey in the table, and those regions with an employment rate significantly different[30] from the overall rate have this difference indicated in bold.

Across the whole of Australia in 1986, 70 per cent of men and 50 per cent of women aged 45-64 were employed.[31] Across the different regions, however, employment rates for men ranged from 79 per cent in Outer South-Western and Outer Western Sydney (ie covering the Blue Mountains, Penrith and Campbelltown) down to 55 per cent in Richmond-Tweed and the Mid-North Coast of NSW (ie the NSW North coast). It is possible that the extreme result for the Outer South-Western and Outer Western regions reflects sampling error, as data from the full Census (for all ages) identifies this region as having an unemployment rate slightly above average. For older women, employment rates ranged from 65 per cent in the Northern Territory and the ACT down to 39 per cent in the NSW North coast region.

On average, employment rates for both men and women were lower in the non-metropolitan regions (see the foot of Table 7.1) though there was considerable variation within each of these groups. Other calculations not shown here, using full-time employment rates (people working full-time divided by the population), show very similar patterns across the regions.

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[29]   We use this wider age range to reduce the potential problem of small sample sizes in some regions.

[30]   Based upon a 95% confidence interval.

[31]   Note that the Census is collected via a self-administered form, and so the definition of employment is not precisely the same as that collected in the labour force survey.

Table 7.1   Employment Rates for Men and Women Aged 45-64 by Region

	Men		Women	
	Employed / Pop. (%)	Difference from Australian Average	Employed / Population (%)	Difference from Australian Average
Sydney: Inner Sydney and Eastern Suburbs	69.6	-0.4	58.4	**8.3**
Sydney: St George-Sutherland	75.5	**5.5**	57.1	**7.0**
Sydney: Canterbury-Bankstown and Fairfield-Liverpool	65.3	**-4.7**	43.7	**-6.4**
Sydney: Outer South Western and Outer Western Sydney	79.0	**9.0**	56.8	**6.7**
Sydney: Inner Western and Central Western Sydney	68.4	-1.6	50.0	-0.1
Sydney: Blacktown-Baulkham Hills	74.5	4.5	55.0	4.9
Sydney: Lower Northern Sydney and Northern Beaches	77.8	**7.8**	62.8	**12.7**
Sydney: Hornsby-Ku-ring-gai and Gosford-Wyong	74.9	**4.9**	56.9	**6.8**
Other NSW: Hunter	65.6	**-4.4**	40.6	**-9.5**
Other NSW: Illawarra and South Eastern	71.2	1.2	43.5	**-6.6**
Other NSW: Richmond-Tweed and Mid-North Coast	54.8	**-15.2**	39.1	**-11.0**
Other NSW: Northern and Far West-North Western	71.9	1.9	51.8	1.7
Other NSW: Central West and Murray-Murrumbidgee	73.6	3.6	50.1	0.0
Melbourne: Outer Western Melbourne	63.1	**-6.9**	41.6	**-8.5**
Melbourne: North Western and Inner Melbourne	64.0	**-6.0**	46.9	-3.2
Melbourne: North Eastern Melbourne	65.5	-4.5	45.9	-4.2
Melbourne: Inner Eastern Melbourne	77.1	**7.1**	57.2	**7.1**
Melbourne: Southern Melbourne	75.2	**5.2**	53.6	3.5
Melbourne: Outer Eastern Melbourne	77.0	**7.0**	56.9	**6.8**
Melbourne: South Eastern Melbourne and Mornington Peninsula	68.5	-1.5	47.1	-3.0
Other Vic: Barwon-Western District	67.3	-2.7	51.4	1.3
Other Vic: Central Highlands-Wimmera and Loddon-Mallee	66.7	-3.3	47.6	-2.5
Other Vic: Goulburn-Ovens-Murray and Gippsland	68.5	-1.5	50.1	0.0
Brisbane: City Inner Ring	75.9	**5.9**	60.3	**10.2**
Brisbane: City Outer Ring	76.6	**6.6**	53.8	3.7
Brisbane: South and East BSD Balance	68.1	-1.9	41.2	**-8.9**
Brisbane: North and West BSD Balance	69.9	-0.1	47.0	-3.1
Other Qld: Moreton	64.5	**-5.5**	44.8	**-5.3**
Other Qld: Wide Bay-Burnett and Darling Downs-South West	61.5	**-8.5**	41.9	**-8.2**
Other Qld: Mackay-Fitzroy-Central West	71.0	1.0	44.1	-6.0
Other Qld: Northern-North West and Far North	71.8	1.8	54.1	4.0
Adelaide: Northern Adelaide	68.8	-1.2	43.5	**-6.6**
Adelaide: Western and Eastern Adelaide	61.7	**-8.3**	46.2	-3.9
Adelaide: Southern Adelaide	72.3	2.3	55.4	5.3
Other SA: Balance SA	68.7	-1.3	51.2	1.1
Perth: Central and East Metropolitan	75.0	**5.0**	56.1	**6.0**
Perth: North Metropolitan	74.2	4.2	55.2	**5.1**
Perth: South Metropolitan	69.4	-0.6	50.6	0.5
Other WA: Balance WA	72.6	2.6	46.7	-3.4
Tasmania	67.5	-2.5	40.5	**-9.6**
Northern Territory and Australian Capital Territory	77.7	**7.7**	64.9	**14.8**
No usual address	43.8	**-26.2**	20.0	**-30.1**
All Metropolitan	71.5	**1.5**	52.1	**2.0**
Non-Metropolitan	67.6	**-2.4**	46.4	**-3.7**
All	70.0	0.0	50.1	0.0

Source: ABS Census 1996 1% Household Sample File. See ABS Cat. No. 1216.0 for maps of these regions.

Notes: Estimates are for Australian residents with non-missing labour force status. Differences in bold are more than two standard errors from the employment rate for all men or women respectively. Tasmania, NT, ACT and No usual address are not included in the Metropolitan or non-metropolitan sub-totals.

Is this cross-regional variation in older worker's employment rates particular to older workers, or it is a reflection of broader patterns of labour demand and supply across the regions? In Figure 7.1 and Figure 7.2 we compare the employment rates for

'prime-age' workers (those aged 30-44) with the employment rates shown in Table 7.1. Overall, people aged 45-64 have employment rates some 14 per cent lower than those aged 30-44. This difference is essentially the same for men and women, even though women have a younger age of eligibility for the Age Pension.

Figure 7.1 Men: Regional Employment Rates by Age

Source: ABS Census 1996 1% Household Sample File.

Notes: Estimates are for Australian residents with non-missing labour force status. See text for description.

In some regions the difference between younger and older workers is less than this. These regions appear in the Figures as points above the diagonal line. However, whilst there is some divergence, in very few regions is it statistically significant. In the figures, those regions where the difference between older and younger is more than two standard errors from the overall difference are denoted by solid points. This denotes an approximate 95 per cent significance cut-off. That is, given 40 independent regions, we would expect to find two regions with differences of this magnitude or greater, even if there were no true differences between young and old in the underlying data. The fact that we find 5 and 7 regions with significant differences for men and women respectively suggests that there is some significant difference in employment patterns, however the differences are not dramatic.

Those regions where older workers seem to be doing better than would be expected on the basis of the employment outcomes for younger workers include, for men, the

NT and ACT, Brisbane City, and the North of NSW and for women, the NT and ACT, Sydney South-West and Outer West, and Perth North Metropolitan. Whilst the preponderance of white-collar employment in the ACT might explain the first of these patterns, it is difficult to draw simple inferences with respect to the remainder.

Areas where older workers appear to be faring relatively poorly (compared to the younger in their own region) include, for men, the outer West of Melbourne and, for women, this region together with the North-East of Melbourne, Brisbane South and East and the Richmond-Tweed and mid-North coast of NSW.

Figure 7.2 Women: Regional Employment Rates by Age

Source: ABS Census 1996 1% Household Sample File.

Notes: Estimates are for Australian residents with non-missing labour force status. See text for description.
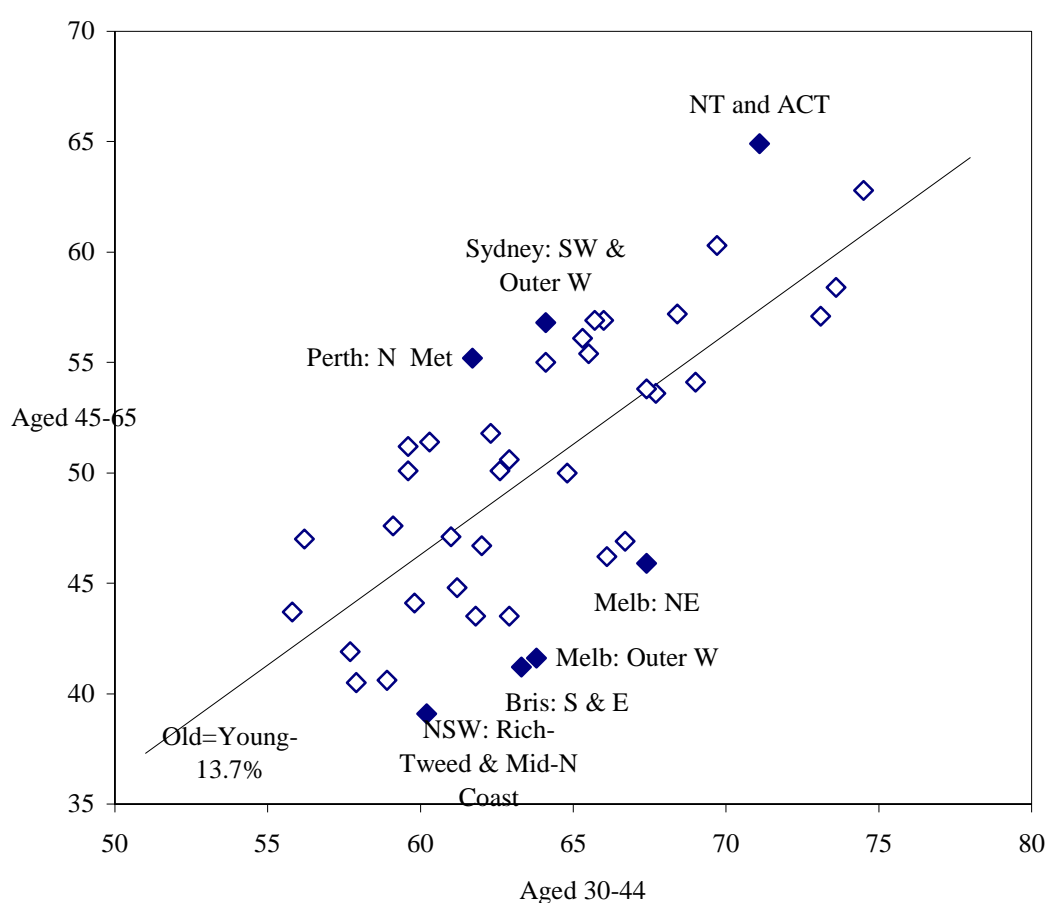
8 Appendix

Table 8.1 Principal Source of Personal Income by Educational Qualification by Age by Sex, 1996-97

Education	Age	Principal Source of Personal Income			
		Wage /Salary	Govt. Transfer	Other Income	No Regular Income
		Males			
<=Secondary	<30	67.4	19.5	3.9	9.3
	30-44	64.7	17.0	13.3	5.0
	45-49	52.8	20.8	21.7	4.7
	50-54	53.5	20.1	21.1	5.2
	55-59	44.9	32.3	21.1	1.7
	60-64	17.5	50.5	27.9	4.1
	65+	2.2	68.4	28.2	1.3
Vocational	<30	76.1	10.5	10.1	3.3
Trade/Other	30-44	71.2	7.7	16.5	4.7
	45-49	70.5	7.4	18.6	3.6
	50-54	71.4	9.5	15.6	3.5
	55-59	56.5	15.7	23.9	3.9
	60-64	34.6	30.8	31.1	3.6
	65+	3.9	62.1	33.9	0.1
University	<30	82.1	9.0	5.9	3.1
	30-44	83.2	2.6	10.1	4.2
	45-49	71.4	7.3	20.0	1.4
	50-54	72.5	1.8	21.2	4.6
	55-59	59.7	4.0	27.3	9.0
	60-64	34.4	10.1	55.5	na
	65+	6.1	32.7	59.4	1.7
		Females			
<=Secondary	<30	56.3	28.1	6.1	9.5
	30-44	43.6	34.0	12.2	10.2
	45-49	50.9	17.4	15.7	16.0
	50-54	37.7	25.7	21.8	14.8
	55-59	20.5	39.3	23.8	16.4
	60-64	6.6	68.8	20.1	4.5
	65+	0.5	72.9	23.4	3.3
Vocational	<30	69.2	20.6	3.6	6.6
Trade/Other	30-44	58.4	22.1	12.1	7.4
	45-49	61.7	12.8	16.7	8.8
	50-54	60.0	12.1	16.4	11.5
	55-59	36.3	25.0	29.9	8.8
	60-64	19.0	56.0	21.9	3.1
	65+	0.6	53.0	42.2	4.2
University	<30	86.0	7.4	2.9	3.7
	30-44	75.3	9.6	9.3	5.8
	45-49	83.9	3.2	11.5	1.4
	50-54	67.9	3.1	24.1	4.9
	55-59	43.0	16.5	40.5	na
	60-64	51.6	1.7	30.2	16.5
	65+	na	48.1	42.5	9.4

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

Table 8.2   Principal Source of Household Income by Educational Qualification by Age by Sex, 1996-97

Education	Age	Principal Source of Household Income			
		Wage /Salary	Govt. Transfer	Other Income	No Regular Income
		Males			
<=Secondary	<30	77.3	14.4	8.2	0.1
	30-44	71.6	16.7	10.5	1.3
	45-49	63.9	17.9	16.6	1.6
	50-54	67.7	17.8	13.9	0.6
	55-59	59.9	24.4	15.3	0.5
	60-64	29.1	43.3	26.5	1.1
	65+	11.9	62.8	25.0	0.4
Vocational	<30	84.5	6.5	9.0	na
Trade/Other	30-44	77.2	7.5	14.0	1.4
	45-49	79.2	5.1	14.7	1.0
	50-54	76.9	10.3	11.0	1.8
	55-59	65.2	16.6	16.5	1.7
	60-64	46.6	29.1	22.9	1.4
	65+	11.4	57.3	31.4	na
University	<30	88.1	4.1	7.8	na
	30-44	87.4	3.2	8.3	1.1
	45-49	73.6	7.3	19.1	na
	50-54	83.9	1.8	14.3	na
	55-59	76.8	na	23.2	na
	60-64	47.4	16.4	36.2	na
	65+	7.9	32.7	59.4	na
		Females			
<=Secondary	<30	75.0	17.4	7.6	0.1
	30-44	67.8	19.9	11.1	1.2
	45-49	72.8	15.6	11.2	0.4
	50-54	65.7	20.6	13.3	0.4
	55-59	46.8	30.7	20.7	1.8
	60-64	27.1	51.1	21.7	na
	65+	12.9	60.0	25.3	1.8
Vocational	<30	82.7	8.7	8.1	0.5
Trade/Other	30-44	75.4	10.3	13.5	0.8
	45-49	76.9	9.6	12.7	0.8
	50-54	73.3	12.1	14.6	na
	55-59	53.1	24.1	21.7	1.0
	60-64	29.6	44.4	22.9	3.1
	65+	7.5	45.9	45.2	1.4
University	<30	93.6	2.1	4.4	na
	30-44	87.0	4.5	8.0	0.5
	45-49	86.7	3.2	10.0	na
	50-54	86.8	na	13.2	na
	55-59	35.3	15.9	48.8	na
	60-64	57.2	1.7	38.5	2.6
	65+	12.2	38.9	43.2	5.8

Source: ABS Income Distribution Survey, confidentialised unit record files, 1996-97.

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