

TRANSITIONS ONTO THE AGE PENSION:

AN ANALYSIS OF FACS
LONGITUDINAL
ADMINISTRATIVE
DATA

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SPRC Report 3/02

Social Policy Research Centre
University of New South Wales
July 2002

**Transitions onto the Age Pension: An analysis of FaCS
Longitudinal Administrative Data**

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A Component of the Research Project on
Workforce Circumstances and Retirement Attitudes of Older Australians

Final Report prepared for the Department of Family and Community Services
by the Social Policy Research Centre, UNSW. Originally submitted in November 2001,
Revised in July 2002

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ISSN 1446-4179
ISBN 0 7334 1943 7

July 2002

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Summary

This report was prepared for the Department of Family and Community Services (FaCS) to assist FaCS' assessment of policy options to encourage employment and self-sufficiency among people aged 50 or more. Focusing on the transition onto the age pension, the primary intention of the analysis was the identification of the characteristics of individuals whose reliance on income support commenced well before the official retirement age. The analysis relied entirely on the FaCS Longitudinal Administrative Data Set (LDS), covering the four years between June 1995 and June 1999.

Following the introduction and description of the data, Section 3 of the report examines transitions onto other Age Pension and transitions onto the payments that proved to be important sources of movement onto the Age Pension. The main findings of this section are

- Just over half of those who entered the Age Pension between June 1998 and June 1999 received another form of income support in June 1998. Single age pensioners, regardless of sex were more likely to receive another form of income support in 1998. Around 60 per cent of single women entrants, and 64 per cent of single men entrants, were in receipt of another form of income support. The comparable proportion for married Age Pensioners was closer to 55 per cent.
- Almost all partnered women receiving income support in the year preceding entry onto Age Pension received division of labour payments¹. A small, but significant, group received disability payments. The majority of men receiving income support received disability payments, although older payments² were also important. Following the disbandment of the Wife Pension and Widow B Pension, women seem increasingly likely to have received the DSP prior to entry to the Age Pension.
- The proportions of entrants to disability payments in the year to June 1999, who came from another form of income support, were 60 per cent, 50 per cent and 30 per cent respectively for single women, single men and partnered men. Most of the men and single women who received income support before a spell of disability payment receipt were receiving unemployment payments. There was also a small group of sickness payment recipients, and amongst the women a small but substantial number receiving care payments. Over the second half of the 1990s, there may have been an increase in the tendency of disability payment recipients to receive unemployment payments before entry.
- Nearly 80 per cent of women aged 50 or more who commenced receiving division of labour payments in the year preceding June 1999 came from outside the income support system. Unemployment and care payments were important sources.
- Changes to the payments system over the second half of the 1990s ensured that almost all male entrants to older payments in the year to June 1999 came from

¹ Division of labour payments, such as Wife Pension, allow couples to follow the traditional division of labour. See Section 2 for a list of included payments.

² Older payments, such as Widow Allowance, recognise that long periods outside paid work make it unreasonable to expect some older people to try to return to the labour market. See Section 2 for a list of included payments.

within the income support system. They had been receiving unemployment payments. Close to 70 per cent of women who commenced receiving the older payments in the 1998/99 financial year were in receipt of unemployment, division of labour or care payments before hand.

Section 4 documents trends in the stock of Disability Support Pensioners over the sample period, showing that

- The stock of disability payment recipients increased in size over the second half of the 1990s, both in gross terms and in relation to the population. Structural changes to the income support system explain much, if not all, of the relative increase. The number of partnered female DSP recipients increased by over 80 per cent, and there was an increase in the relative importance of older women (aged 50 or more) illustrating the effects of the disbandment of the Wife Pension. Whilst the number of partnered men in receipt of 'disability' payments was relatively constant there was a 30 per cent increase in the number of single men. There was a slight increase in the relative importance of single men aged 55-59, possibly related to the relatively high unemployment rates of older men. The cause of the increase in the tendency of younger men to receive disability payments (an increase of 3,500 between 1994 and 2000) was beyond the scope of this research. Nonetheless, it is a problematic trend since this group has neither carers nor wives.
- Analysis of the time trends in the proportion of DSP recipients who worked, suggests that there has been little change in the tendency to work over the second half of the 1990s. The younger DSP recipients tended to be more likely to work than older DSP recipients. There was little difference in the tendency of married men and unmarried men to work, while among women younger than 50, single women were more likely to work than married women. Except for single women younger than 30, women were less likely to work than men.

Analysis presented in Section 5 was designed to determine the individual characteristics associated with movement onto the Age Pension from outside the income support system. The main findings are

- In general, entrants to the Age Pension, who entered from 'off-income support', were older than those who entered from another form of income support. Disability payment recipients, regardless of sex and marital status, entered the Age Pension almost immediately they reached their eligible age. Similarly, the average age of men entering from older payments was 65. However, men who entered from other payments waited for a few years before entry, as did single women entering from the older payments.
- The logit estimation reveals some interesting differences between men and women. Married women were more likely to enter the age pension from 'off-income support' than single women were, whereas marriage did not play an important role for men. Australian born women were also more likely to enter from 'off-income support' whereas country of birth was irrelevant amongst men. Those in receipt of unearned income were, as expected, less likely to enter the Age Pension from another form of income support. Surprisingly, homeownership had no effect on the propensity to enter the Age Pension from 'off-income support'. Age Pensioners in paid employment were less likely to have come from another form of income

support. In terms of location, country residents were more likely than city residents were to come from another form of income support, regardless of sex.

- The estimated logit model predicted that typical women, regardless of marital status, have a greater than 50 per cent chance of entering the Age Pension from 'off-income support'. While the typical married man also exhibited a greater than 50 per cent chance of entering from 'off-income support', his probability was less than that of the typical married woman. Furthermore, the typical single man exhibited a less than 50 per cent chance of entering the Age Pension from off-income support.

Analysis presented in Sections 3 and 5 showed that a substantial proportion of entrants to the Age Pension was previously receiving disability payments. There is concern that over the second half of the 1990s, it became increasingly likely for unemployment payment recipients to flow onto disability payments. In reference to this concern, Section 6 found that

- The estimated probability of exiting the income support system from unemployment payments decreased with the length of the unemployment payment spell. This suggests that individual characteristics crucial to explaining employability, such as education, were missing from the analysis. Alternatively, or additionally, this finding implies that job seekers find it more difficult to find work the longer their spell of unemployment.

The probability that women would exit unemployment payments was consistently higher than that of men's.

The tendency to exit the income support system from unemployment payments decreased with age. Age also affected the tendency to exit through its interactions with other individual characteristics. For example, older married women (aged 50 or more) were more likely to exit than single women and younger married women.

Those who worked while receiving income support were generally less likely to exit than non-workers. The propensity to exit tended to increase with earnings. Both men and women with unearned income were more likely to exit. The propensity for men to exit increased with the value of that income, and the effect of unearned income was larger among older men.

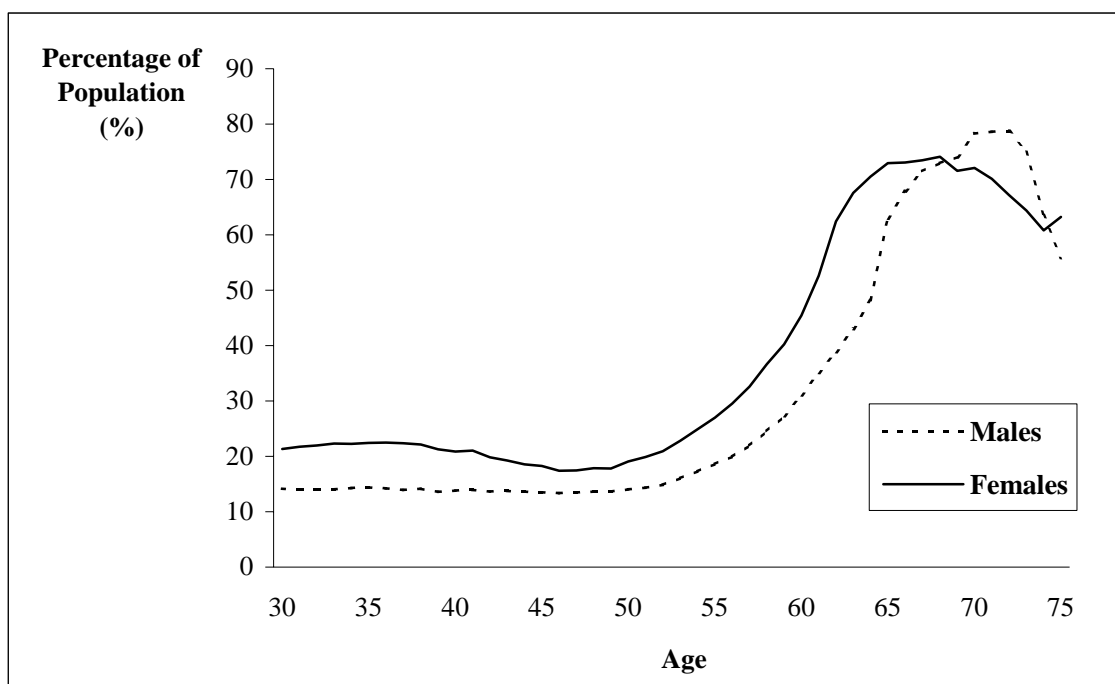
- If there was a tendency for unemployed persons to move onto disability payments it appears not to be intensified by the length of time spent receiving unemployment payments. However, the tendency to move from unemployment payments to disability payments increased with age for both men and women. Young Australian born women were more likely to exit than those born overseas and their older counterparts. Male homeowners were more likely to exit to disability related payments than non-homeowners were, regardless of age. Older female homeowners were more likely to exit than their younger counterparts and non-homeowners of any age.
- The propensity to exit the income support system from disability payments decreased with the length of the spell. Men of prime working age (20 to 44 years) were most likely to exit. The propensity to exit decreased with age. Young Australian women were less likely to exit than their older counterparts and overseas

born women, regardless of age. Older women who identified as ATSI were more likely to exit than their younger counterparts and non-ATSI women. Men who worked while receiving disability payments were less likely to exit than non-workers were, until they earned \$260 per fortnight. Amongst younger women those who worked were always more likely to exit, and the differential increased with earnings. This relationship did not exist among older women. Younger men living in cities were less likely to exit than their older counterparts and men who lived outside cities.

1 Introduction

There is concern about the relatively low employment rates and high social security dependence of Australians as they approach retirement age combined with the projected increase in this age cohort as a proportion of the population. Australians who enter income support before the official retirement age and remain there until they can receive the age pension will be the least financially prepared for their retirement. This concern is for the welfare of long-term income support recipients, the potential increases in social security expenditure and loss of tax revenue. The qualifying age for age pension is often thought of as the divide between reliance on employment income and reliance on income support. Using cross-sectional data at June 2000, Figure 1.1 illustrates that this is not the case. These data do not represent actual life-course patterns, which can only be derived from longitudinal data. The income support dependency of Australians men was relatively stable over the prime working age years, at almost 15 per cent. For each year over the age of 50 however, income support dependency increased at a steady rate to be almost 70 per cent at men's official retirement age of 65. The story is similar for women, although women's income support dependency is almost double that of men's over the age range during which they undertake child-care. Furthermore their dependency rate falls somewhat from the age of 40 before commencing to rise five or so years later.

Figure 1.1 Income Support Recipients by Sex – June 2000*



* Source: Perry (2000) – FaCS unpublished data

Note: Income support does not include Veteran's Affairs payments. Nor does it include Family payments or other supplements.

This paper focuses on the transition onto Age Pension, answering the following research questions:

- From what payments did Australians enter the Age Pension over the second half of the 1990s?
- Having identified the payments acting as important source of Age Pensioners (for example disability payments and division of labour payments), do Australians enter these payments from outside the income support system?
- What individual characteristics were associated with entering the Age Pension from outside the income support system?
- What individual characteristics were associated with longer spells of disability payment support?
- Having identified that unemployment payment recipients were an important source of disability payment recipients, what individual characteristics were associated with movement from unemployment payments to disability payments?

2 Data

The data used in the analysis is drawn from FaCS' LDS. Based on Centrelink's administrative data set, this one per cent random sample is drawn from a framework of fortnightly extracts of all customer records, and consists of data extracted from June 1995 to June 1999 (a period of 105 consecutive fortnights). It provides information on Centrelink customer characteristics, from age, sex and marital status to details on the type and amount of payment received.

To generate this sample FaCS firstly selected every 100th record from the list of income support recipients for the second payment date in June 1995. Every subsequent fortnight FaCS selected records for members of that group if the member was still a recipient. Each fortnight new recipients were added to the sample, that is every 100th recipient who had not previously been a recipient for the life of the survey. Each individual who received income support over the life of the survey has an equal chance of being selected.

Income support recipients are categorised according to Perry's (1995) 'eligibility criteria' schema. These describe categories of people judged unable to participate in the paid labour market, not expected to participate in the paid labour market, or unable to find adequate paid employment. Eligibility for some payments is limited by sex or marital status, based on the historical role of married women as financially dependent on their male partners.

Income support:

1. allows the aged to retire from work - 'Age';
2. gives primary care givers a choice - 'Care';
3. provides for those whose sickness or disabilities prevent them from supporting themselves fully through work - 'Disability' and 'Sick';
4. allows couples to follow the traditional division of labour - 'Division of labour';
5. recognises that long periods outside paid work make it unreasonable to expect some older people to try to return the labour force - 'Older';
6. provides income to those, not eligible for the above categories, provided they are available for work and take steps to prepare for, enter or return to the paid workforce - 'Unemployment' and 'Family'; and
7. provides an additional safety net for those in hardship who do not qualify for other income support - 'Other'.

Table 2.1 lists the payment types relevant to the period of analysis against these categories. At the beginning of the period under analysis, there was a significant change to payment arrangements that required both members of a couple to establish their own entitlement to income support. July 1995 saw the introduction of the Parenting Allowance and the cessation of new grants of Wife Pension and Mature Age Partner Allowance. This change complicates an analysis of the dynamics of income support attachment, especially for older women.

Table 2.1: Income Support Categories and Related Income Support Payments

Category	Income Support Payments
Age	Age Pension*#
Care	Carer Pension*, Carer Payment#, Sole Parent Pension*, Parenting Allowance*, Parenting Payment Single#, Parenting Payment Partnered#
Division of labour	Mature Age Partner Allowance*, Wife Pension*, Partner Allowance#
Unemployment	Jobsearch Allowance*, Newstart Allowance#, Youth Training Allowance, Youth Allowance (if looking for work)#
Disability	Disability Support Pension*#, Disability Wage Supplement*#
Sick	Sickness Allowance*#
Family	Family Payment Workforce*#
Older	Widow B Pension*, Widow Allowance#, Mature Age Allowance*, Newstart Mature Age Allowance*#
Other	Austudy, Bereavement Allowance, Drought Relief, Special Benefit

Notes * Relevant to new income support recipients in June 1995.

Relevant to new income support recipients in June 1999.

The following outlines the impact of changes to the income support system on each payment category over the second half of the 1990s.

- *Division of labour*: By 1999, the only new entrants to this category were Partner Allowees. Since Partner Allowance is only paid to those born before 1 July 1955, this category has a finite life.

The Wife Pension is currently being phased out. No new grants have been made since 1 July 1995. Women could qualify to receive this payment if their partners were recipients of the Disability Support Pension (DSP) or the Age Pension (and they were too young to receive an Age Pension in their own right). Three-quarters of Wife Pensioners were married to a Disability Support Pensioner in June 1995 and 60 per cent of Wife Pensioners were aged between 55 and 59 years (DSS, 1995). The Mature Age Partner Allowance is being phased out too. No new grants have been made since end 1 July 1995. Recipients of this allowance were partners of Mature Age Allowees.

Webb et al. (1998) show that numbers on both the DSP and the Carer Pension grew more quickly in 1995-96 than in previous years, in response to the restriction of access to the Wife Pension. Nevertheless, the majority of married women affected by the July 1995 changes ended up on allowance payments (Parenting, Partner and, to a lesser extent, Newstart Allowance).

- *Care*: In July 1995, Parenting Allowance was introduced to provide an independent source of means-tested income to the parent who primarily cared for children. In 1998, the Sole Parent Pension was replaced by Parenting Payment Single and the Parenting Allowance replaced by Parenting Payment Partnered.

From July 1997, the Carer Pension was known as the Carer Payment. From March 1996 the Carer Payment was extended to carers of non-pensioners.

Webb et al. (1998) claim that the 1995-96 increase in the Carer Payment population primarily reflects the greater recognition given to carers in recent years. Some of the increase was due to the disbandment of the Wife Pension.

- *Disability*: Before 1 January 1998, people who commenced employment in the Supported Wage System through the then Department of Health and Family Services were encouraged to transfer to Disability Wage Supplement. The Supplement was abolished on 1 January 1998 and all existing Disability Wage Supplement recipients were transferred to Disability Support Pension.
- *Older*: By far the majority of women in receipt of 'older' payments in 1995 were Widow B pensioners (DSS, 1995). The Widow B Pension was gradually phased out from 1987. From March 1997 there were no new entrants to the Widow B Pension. Some of those women who would have received the Widow B Pension are eligible for the Widow Allowance, which commenced in 1 January 1995.

In 1995 Mature Age Allowance (MAA)³ was paid to males 60 years or over, registered as unemployed with the CES for 12 months prior to claiming, or who have been in receipt of income support for 12 months or more. It was paid under pension income and assets tests. Since 1 July 1996 it has been paid under allowance income and assets tests. Furthermore, women are eligible for the allowance. Its eligibility criteria, in terms of attachment to the paid labour market, were weakened. The MAA recipient must have had no recent workforce experience (defined as at least 20 hours per week for a total of 13 weeks or more in the previous 12 months) and have been receiving unemployment payments for a continuous period of nine months or more in the past 12 months, have previously received MAA, or have received at least one payment of a social security allowance or pension or Department of Veterans Affairs pension within the 13 weeks immediately before claiming.

³ Newstart MAA was introduced in September 1996, with the same eligibility criteria as MAA. It applies to recipients transferring from Newstart Allowance.

3 Entering the Age Pension from Other Sources of Income Support: What are the Chances and What are the Sources?

3.1 Introduction

The LDS data affords an opportunity to track the income support attachment of Age Pensioners before entry onto the Age Pension. Such analysis provides a guide to the likely paths of income support dependence of older Australians. Firstly, it identifies the more common income support payments received by Aged Pensioners for up to four years before their entry – disability payments, division of labour payments and older payments. Then it shows the recent income support history of those in receipt of the more common payments.

Payment history were tracked for those receiving a particular payment (Age Pension, disability payments, division of labour payments and older payments) on one of the two income support payment dates in June 1999. If the individual received a different payment on the two payment dates the more recent was taken. Similarly the 1996, 1997 and 1998 payments refer to the payment received on one of the two payment dates in June of each year, the more recent if they differ. The 1995 payment is the one received on the second payment date in June or the first in July. If the payment types differed, I took the June one. Income support reciprocity had precedence over non-receipt.

The main findings of this section are:

- Just over half of those who entered the Age Pension between June 1998 and June 1999 received another form of income support in June 1998. Single age pensioners, regardless of sex were more likely to receive another form of income support in 1998. Around 60 per cent of single women entrants, and 64 per cent of single men entrants, were in receipt of another form of income support. The comparable proportion for married Age Pensioners was closer to 55 per cent.
- Almost all partnered women receiving income support in the year preceding entry onto Age Pension received division of labour payments. A small, but significant, group received disability payments. The majority of men receiving income support received disability payments, although older payments were also important. Prior to entry to the Age Pension women seem increasingly likely to have received the DSP, following the disbandment of the Wife Pension and Widow B Pension.
- The proportions of entrants to disability payments in the year to June 1999, who came from another form of income support, were 60 per cent, 50 per cent and 30 per cent respectively for single women, single men and partnered men. Most of the men and single women who received income support before a spell of disability payment receipt were receiving unemployment payments. There was also a small group of sickness payment recipients, and amongst the women a small but substantial number receiving care payments. Over the second half of the 1990s there may have been an increase in the tendency of disability payment recipients to have received unemployment payments before entry.
- Nearly 80 per cent of women aged 50 or more who commenced receiving division of labour payments in the year preceding June 1999 came from outside

the income support system. Unemployment and care payments were important sources.

- Changes to the payments system over the second half of the 1990s ensured that almost all male entrants to older payments in the year to June 1999 came from within the income support system. They had been receiving unemployment payments. Close to 70 per cent of women who commenced receiving the older payments in the 1998/99 financial year were in receipt of unemployment, division of labour or care payments before hand.

3.2 Pathways onto the Age Pension

Table 3.1 illustrates the transitions onto Age Pension. The populations under consideration are the 10,826 women and 6 312 men, from the one per cent LDS sample, in receipt of the Age Pension in June 1999. The first rows of Table 3.1, under the headings Women and Men respectively, show the percentages of both populations in receipt of Age Pension in June of the four previous years. These figures provide a guide as to the stability of the relevant population. For example, in 1998, 94 per cent of the women and 91 per cent of the men were in receipt of Age Pension. In 1995, four years earlier, 78 per cent of the women and 65 per cent of the men received the Age Pension, illustrating that the women's population was more stable than was the men's. A possible explanation is that women will in general, spend more time in receipt of the Age Pension since they can commence receiving the Age Pension at an earlier age, and tend to out-live men. Women also tend to have lower levels of income and assets.

Table 3.1: Transitions onto Age Pension by Sex for those Receiving Age Pension in June/July 1999

	1998	1997	1996	1995
Women (10,826)				
Age Pension (%)	94.0	90.4	81.6	78.2
Non Age Pensioners	%	%	%	%
Not receiving income support	44.1	47.3	40.2	46.5
Disability	13.4	10.0	7.7	6.3
Older	10.9	10.2	21.5	18.3
Division of labour	29.3	28.0	26.9	26.1
All others	2.3	4.5	3.7	2.8
<i>Total non age pensioners</i>	<i>649</i>	<i>1036</i>	<i>1968</i>	<i>2366</i>
Men (6,312)				
Age Pension (%)	90.5	82.5	73.6	65.3
Non Age Pensioners	%	%	%	%
Not receiving income support	43.1	41.0	43.9	47.0
Disability	30.7	32.3	32.4	31.5
Older	21.0	21.7	17.5	13.8
Division of labour	2.2	0.9	0.7	0.5
All others	3.0	4.1	5.5	7.2
<i>Total non age pensioners</i>	<i>599</i>	<i>1106</i>	<i>1666</i>	<i>2192</i>

The table also describes, for each June from 1995 to 1998, the income support status of the population members not in receipt of the Age Pension. These people are described henceforth as 'non Age Pensioners'. Doing this allows us to determine the tendency of

individuals to move directly onto the Age Pension from other forms of income support, thus entering the Age Pension as soon as they reach qualifying age. It is possible that individuals entering the Age Pension from outside the income support system also enter as soon as they reach the qualifying age. This issue is investigated in Section 5. For example, reading down the column headed 1998, we see that 44 per cent of the female non-Age Pensioners were not in receipt of any form of income support in June 1998. However, 13 per cent were in receipt of disability payments and 29 per cent in receipt of division of labour payments.

Three likely reasons for a change in the relative proportions of the income support categories between years are; individuals moved between categories in the intervening year, there were changes in the relative propensities to enter the Age Pension from the categories, or there were changes in the relative sizes of the category populations.

Nearly one-half of the non-Age Pensioners did not receive income support in June 1995, regardless of sex. Presumably, some of the members of this group moved onto other forms of income support before they commenced receiving the Age Pension. As a proportion of the non-Age Pensioners, those not receiving income support became less important over the next year at least. However, they increased in importance during 1997 and 1998. This suggests that it may have become more difficult for older Australians to access income support in the second half of the 1990s.

In every June, close to 30 per cent of the women were receiving division of labour payments. Most of the other women receiving income support were in receipt of either disability or older payments. There was a structural shift in the share of the women's income support categories between 1996 and 1997, as older payment recipients became less important. There have been no new entrants to the Widow B Pension since March 1997. Between June 1996 and June 1997 the number of Widow B Pensioners fell from 49 875 to 18 820 (DSS, 1997). In comparison the number of Widow Allowance recipients only increased from 11 748 to 17 468 (DSS, 1997).

Men on income support were primarily receiving disability payments in the previous four years, although between 13 and 19 per cent received older payments.

Table 3.2 is similar to Table 3.1, except that men and women are differentiated by marital status. It shows that in 1999, there were roughly the same number of partnered men and women Age Pensioners, but substantially more single women than single men. As a group, single female Age Pensioners are the most stable. Over 80 per cent of them were receiving the Age Pension four years earlier, compared with around 70 per cent of partnered women and single men, and only 63 per cent of partnered men.

Table 3.2: Transitions onto Age Pension by Sex and Marital Status of those Receiving Age Pension in June/July 1999

	1998	1997	1996	1995
Women				
Partnered (4574)				
Age Pension (%)	90.7	85.2	75.5	70.1
Non Age Pensioners	%	%	%	%
Not receiving income support	46.5	50.4	48.6	53.1
Disability	6.8	5.5	4.9	3.4
Older	2.2	1.3	0.7	0.8
Division of labour	43.7	40.0	43.8	41.4
All others	0.8	2.8	2.0	1.3
<i>Total non age pensioners</i>	<i>426</i>	<i>677</i>	<i>1122</i>	<i>1369</i>
Single (6252)				
Age Pension (%)	96.4	94.3	86.5	84.1
Non Age Pensioners	%	%	%	%
Not receiving income support	39.8	41.5	29.2	37.4
Disability	26.0	18.7	11.5	10.2
Older	29.6	27.0	49.1	42.3
Division of labour	1.8	5.3	4.7	5.1
All others	2.8	7.5	5.5	5.0
<i>Total non age pensioners</i>	<i>223</i>	<i>359</i>	<i>846</i>	<i>996</i>
Men				
Partnered (4544)				
Age Pension (%)	90.0	81.4	72.1	63.0
Non Age Pensioners	%	%	%	%
Not receiving income support	45.4	42.6	46.0	49.7
Disability	28.5	30.9	31.3	30.5
Older	19.7	20.8	16.6	12.7
Division of labour	2.9	1.2	0.9	0.7
All others	3.5	4.5	5.2	6.4
<i>Total non age pensioners</i>	<i>456</i>	<i>845</i>	<i>1270</i>	<i>1681</i>
Single (1768)				
Age Pension (%)	91.9	85.2	77.6	71.1
Non Age Pensioners	%	%	%	%
Not receiving income support	35.7	36.0	37.4	38.4
Disability	37.8	36.8	35.9	34.6
Older	25.2	24.5	20.5	17.4
All others	1.3	2.7	6.2	9.6
<i>Total non age pensioners</i>	<i>143</i>	<i>261</i>	<i>396</i>	<i>511</i>

At June in each of the four years preceding 1999, roughly half of the partnered Age Pensioners were in receipt of another form of income support, regardless of sex. The partnered women primarily received 'division of labour' payments, although a small group were in receipt of 'disability' payments. Three-fifths of the partnered men in receipt of income support were in receipt of 'disability' payments and the remainder tended to receive 'older' payments.

Single people, regardless of sex, were substantially more likely to receive income support before entering the Age Pension. Between 60 and 70 per cent of the single non Age Pensioners were in receipt of income support at any of the four Junes preceding June 1999. A little over one third of the non Age Pensioner men received disability

payments and another 20 per cent received older' payments. In 1995 and 1996, most of the single women entering the Age Pension received older payments. From 1997, when the Widow B Pension was disbanded, the importance of disability payment recipients as a source of Age Pensioners increased. By 1998, disability payment recipients were almost as important a source as older payment recipients were. An unusually large number of single women entered the Age pension between 1996 and 1997, from older payments. This probably reflects the transfer onto Age Pension of women, old enough to receive Age Pension, but who were in receipt of Widow B Pension. For example, in 1996 17 017 women aged 65 and over received Widow B Pension compared with only 1 450 in 1997 (DSS, 1996 and Centrelink, 1997).

These findings suggest the importance of determining movements onto 'disability' and 'older' payments for men and single women and onto 'division of labour' payments for partnered women.

3.3 Pathways onto 'Disability' Payments, 'Division of Labour' Payments and 'Older' Payments

Section 3.2 highlighted that important sources of movement onto the Age Pensioners, were 'disability' payments, 'division of labour' payments and 'older' payments.

Onto 'disability' payments

As Table 3.3 shows, in June 1999 there were 2009 single men in receipt of disability payments, 1 760 partnered men and 1 460 single women. These are the populations of interest. I excluded married women from this analysis since very few of them traversed the path onto the Age Pension via disability payments. It may become a more important source in the future with the end of the Wife Pension.

Using the percentage of those receiving disability payments in June of the four previous four years as a guide to the stability of the population of recipients, we see that single men were the most stable, followed by single women and partnered men. In other words, assuming constant, over time, inflow to disability payments relative to the population, single men spent the longest time on DSP, followed by single women and partnered men. If, on the other hand there had been no change to the time spent on disability payments and members of the different populations spent much the same time on disability payments on average, this could indicate that there has been an increased inflow of partnered men onto disability payments.

Turning to the non disability recipients, we see that 58 per cent of the partnered men who commenced receiving disability payments in the year to June 1999 came from outside the income support system. Far fewer single men and women came from outside the income support system, just over 40 per cent.

Table 3.3: Transitions onto Disability Payments by Sex and Marital Status of Those Receiving Disability Payments in June/July 1999

	1998	1997	1996	1995
Women				
Single (1460)				
Disability (%)	88.8	77.3	68.9	59.3
Non disability recipients	%	%	%	%
Not receiving income support	41.5	42.8	43.8	46.1
Unemployment	42.7	34.6	25.8	20.2
Care	8.5	12.0	14.5	14.8
Sickness	1.2	3.9	9.0	10.1
All others	6.1	6.7	6.9	8.8
<i>Total non disability recipients</i>	<i>164</i>	<i>332</i>	<i>454</i>	<i>594</i>
Men				
Partnered (1760)				
Disability (%)	86.9	76.3	67.0	56.6
Non disability recipients	%	%	%	%
Not receiving income support	58.3	64.0	66.4	66.2
Unemployment	35.7	28.3	25.3	24.4
Sickness	3.5	3.8	5.9	6.4
All others	2.5	3.9	2.3	8.8
<i>Total non disability recipients</i>	<i>230</i>	<i>417</i>	<i>580</i>	<i>763</i>
Single (2009)				
Disability (%)	89.3	79.9	71.7	63.1
Non disability recipients	%	%	%	%
Not receiving income support	42.8	46.5	49.8	52.4
Unemployment	49.3	47.0	38.9	34.0
Sickness	5.1	3.5	7.2	9.4
All others	2.8	3.0	4.1	4.2
<i>Total non disability recipients</i>	<i>215</i>	<i>404</i>	<i>568</i>	<i>741</i>

Most of the men and single women who received income support before a spell of disability payment receipt were receiving unemployment payments. A number of new entrants to disability payments receive unemployment payments until their medical assessment is finalised. It is also possible that there is some movement from long-term unemployment onto disability payments. The tendency for this occurrence is examined in section 6. There was also a small group of sickness payment recipients, and amongst the women a small but substantial number receiving care payments.

Between 1995 and 1998 the proportions in receipt of income support increased slightly suggesting that there was some movement from outside the income support system onto other payments before entering disability payments. In contrast, the proportion of non disability recipients in receipt of unemployment payments increased as 1999 approached. This was accompanied by falls in the proportions of sickness payment recipients and care payment recipients, amongst women. Since March 1996 unemployment payment recipients who become ill no longer transfer to Sickness Allowance after 13 weeks of incapacity. They continued to be paid unemployed payments subject to Sickness Allowance conditions (FaCS, 1998).

These findings are consistent with the argument that there has been an increase in the tendency of long-term unemployment payment recipients to move onto disability payments.

Table 3.4 repeats the analysis for those aged 50 or more, the main group of interest in this report. As a guide to the tendency to move onto disability payments from outside the income support system, I consider the proportion of non disability recipients that transits onto disability payments in the year to June 1999. Older single women were slightly more likely than their younger counterparts to be in receipt of another form of income support – probably an insignificant difference. However, older men were substantially less likely to be in receipt of income support than their younger counterparts. For example, a little over half of these entrants to disability payments were in receipt of income support compared with 57 per cent for all single men, including younger men.

Table 3.4: Transitions onto Disability Payments by Sex and Marital Status of Those Aged 50 or More in Receipt of Disability Payments in June/July 1999

	1998	1997	1996	1995
Women				
Single (652)				
Disability (%)	91.3	80.8	72.9	61.8
Non disability recipients	%	%	%	%
Not receiving income support	40.4	41.6	39.5	45.0
Unemployment	36.8	29.6	24.9	19.3
Sickness	0	3.2	8.5	8.4
Division of labour	7.0	6.4	6.8	9.6
Care	5.3	11.2	14.1	12.0
All others	10.5	8.0	6.2	5.7
<i>Total non disability recipients</i>	<i>57</i>	<i>125</i>	<i>177</i>	<i>249</i>
Men				
Partnered (1383)				
Disability	88.0	77.7	69.1	58.6
Non disability recipients	%	%	%	%
Not receiving income support	68.1	71.1	72.4	71.7
Unemployment	27.7	22.4	21.0	20.3
Sickness	1.8	2.9	4.4	5.7
All others	2.4	3.6	2.2	2.3
<i>Total non disability recipients</i>	<i>166</i>	<i>308</i>	<i>428</i>	<i>572</i>
Single (841)				
Disability	91.7	84.8	76.0	67.9
Non disability recipients	%	%	%	%
Not receiving income support	48.6	52.3	50.5	51.5
Unemployment	42.9	36.7	34.7	34.1
Sickness	4.3	5.5	9.4	8.5
All others	4.2	5.5	5.4	5.9
<i>Total non disability recipients</i>	<i>70</i>	<i>128</i>	<i>202</i>	<i>270</i>

It appears that the older men were less likely to enter disability payments from unemployment payments. Perhaps because once over 60 they can transfer to Newstart Mature Age Allowance rather than Disability Pension.

Warburton et al. (1999) show that while young people aged 21 to 29 comprise the largest number of long-term unemployed the incidence of long-term unemployment amongst unemployed increases with age, to peak with those aged 50 or more.

Between July 1991 and June 1994, they found that the number of long-term unemployed (income support duration of 12 months or more) increased three-fold. Over the next couple of years it declined slightly with the introduction of Widow Allowance and Mature Age Allowance, and increased expenditure on labour market programmes. Between July 1996 and June 1998 the numbers increased slightly again, accompanied by decreased expenditure on labour market programmes. Over the next year, numbers decreased somewhat.

Onto 'division of labour' payments

Table 3.5 compares the transition behaviour of older partnered women with younger partnered women as they enter 'division of labour' payments. While this category of payment is becoming redundant, analysis of flows onto this category provides some guide as to future flows onto alternative forms of income support. The population of interest comprised the 1774 partnered women in receipt of division of labour payments in June 1999, 1400 of whom were aged 50 or more and 374 were younger than 50. Almost two-thirds of the older women received division of labour payments in June 1995, compared with nearly 80 per cent of the younger women. As expected, the younger women comprise a more stable population. The size of the source population for this group diminishes over time with the age restrictions.

Table 3.5: Transitions onto Division of Labour Payments by Age for Partnered Women in Receipt of Division of Labour Payments in June/July 1999

	1998	1997	1996	1995
Aged 50 or more (1400)				
Division of labour (%)	87.0	77.9	71.7	65.9
Non division of labour recipients	%	%	%	%
Not receiving income support	77.5	81.9	86.1	93.0
Unemployment	11.0	9.0	6.1	2.1
Care	6.0	5.8	5.6	0.6
All others	5.5	3.3	2.2	4.3
<i>Total non division of labour recipients</i>	<i>182</i>	<i>310</i>	<i>396</i>	<i>478</i>
Aged less than 50 (374)				
Division of Labour (%)	89.6	83.7	78.9	78.3
Non division of labour recipients	%	%	%	%
Not receiving income support	74.4	65.6	64.6	79.0
Unemployment	5.1	4.9	6.3	7.4
Care	12.8	26.2	24.1	6.2
All others	7.7	3.3	5.0	7.4
<i>Total non division of labour recipients</i>	<i>39</i>	<i>61</i>	<i>79</i>	<i>81</i>

Over ninety per cent of the older non division of labour recipients were not receiving income support in 1995, compared with eighty per cent of the younger women. In the year to June 1999 around three quarters of both groups moved from outside the income support system onto division of labour payments. There was a steady increase in the proportion of the older non division of labour recipients in receipt of other forms of income support between June 1995 and June 1999, especially unemployment and care

payments. This suggests there was some movement onto division of labour payments via other forms of income support. The story for younger women was quite complex. While there was some movement onto other forms of income support before entry to division of labour payments, between 1995 and 1997 there was a large increase in the tendency to come from care payments.

Onto older payments

By 1998, there were only two active payments in the older payments category, Widow Allowance and Newstart Mature Age Allowance. Neither payment is work tested. As discussed in Section 2 changes to the payments system over the surveyed period have increased the likelihood that those in receipt of 'older' payments will have received other forms of income support immediately beforehand. Entry requirements are such that the recipient must have been out of work for some time.

As Table 3.6 shows 70 per cent of the single women who commenced receiving older payments between mid 1998 and mid 1999 were in receipt of another form of income support in mid 1998. Unemployment, division of labour and care payment recipients were all important sources, with unemployment and care payments increasing in importance over the late 1990s.

Almost 90 per cent of men who transferred onto older payments in the year before June 1999 came from unemployment payments. Eventually all men will have received unemployment payments previously.

Table 3.6: Transitions onto Older Payments by Sex and Marital Status of Those in Receipt of Older Payments in June/July 1999

	1998	1997	1996	1995
Women				
Single (413)				
Older (%)	75.8	57.4	40.2	35.4
Non older recipients	%	%	%	%
Not receiving income support	28.0	38.6	38.5	43.8
Unemployment	32.0	23.3	27.1	21.3
Division of labour	20.0	22.2	20.2	21.7
Care	14.0	11.4	9.7	9.0
All others	6.0	4.5	4.5	4.2
<i>Total non older recipients</i>	<i>100</i>	<i>176</i>	<i>247</i>	<i>267</i>
Men				
Partnered (312)				
Older (%)	74.4	50.0	28.8	14.1
Non older recipients	%	%	%	%
Not receiving income support	8.8	32.7	44.1	51.1
Unemployment	86.3	60.3	50.9	44.8
All others	4.9	7.0	5.0	4.1
<i>Total non older recipients</i>	<i>80</i>	<i>156</i>	<i>222</i>	<i>268</i>
Single (120)				
Older(%)	70.0	47.5	24.2	9.2
Non older recipients	%	%	%	%
Not receiving income support	8.3	20.6	35.2	45.9
Unemployment	83.3	71.4	57.1	50.5
All others	8.4	8.0	7.7	3.6
<i>Total</i>	<i>36</i>	<i>63</i>	<i>91</i>	<i>109</i>

4 Disability Support Pension in More Detail

4.1 Introduction

This section monitors the stock of Disability Support Pensioners over the sample period. The analysis presented in Section 3 suggested that a substantial group of male Age Pensioners transferred from disability payments in the last half of the 1990s. It also highlighted the increasing likelihood that women would transfer onto the Age Pension from disability payments.

In their summary of research describing the associations between demographic characteristics and disability, SPRC (2000) conclude that age is a strong predictor of disability in the USA and Australia. This evidence suggests that, as the Australian population ages the number of disability payment recipients will increase. Table 4.1 provides evidence of a rise in the stock of DSP recipients during the second half of the 1990s, over and above that relating to population increases. The proportion of female DSP recipients in the population increased over the second half of the 1990s, regardless of age. Similarly, the proportion of male DSP recipients aged less than 50 increased.

Table 4.1: The Stock of Disability Payment Recipients as a Proportion of the Population from 1995 to 1998 by Sex and Age*

	June 1995 (%)	June 1996 (%)	June 1997 (%)	June 1998 (%)
Age (in years)	Men			
20-49	3.0	3.1	3.3	3.4
50-59	11.4	11.6	11.5	11.2
60-64	25.3	25.2	25.1	24.7
	Women			
20-49	1.9	2.0	2.2	2.3
50-59	6.5	7.2	7.9	8.1
60-64	0.2	1.0	1.0	2.7

Note: *The sources for the stock of DSP recipients are DSS (1995), DSS (1996), Centrelink (1997) and DFACS (1998). The source for the population data is ABS (2000).

The rise in the proportion of female DSP recipients may be, at least partly, explained by changes to the income support system. Some of the women in receipt of the Wife Pension or Widow B Pension, may have qualified to receive disability payments. With the disbandment of these two pensions, this has forced women to qualify in their own right for the DSP. The rise in the proportion of male DSP recipients aged less than 50 may be due to increased movement from unemployment payment recipients or the newly unemployed onto disability payments.

The main findings of section 4 are:

- The stock of disability payment recipients increased in size over the second half of the 1990s, both in gross terms and in relation to the population. Structural changes to the income support system explain much, if not all, of the relative increase. The number of partnered female DSP recipients increased by over 80 per cent, and there was an increase in the relative importance of older women (aged 50 or more) illustrating the effects of the disbandment of the Wife Pension.

Whilst the number of partnered men in receipt of ‘disability’ payments was relatively constant there was a 30 per cent increase in the number of single men. There was a slight increase in the relative importance of single men aged 55-59, possibly related to the relatively high unemployment rates of older men. The cause of the increase in the tendency of younger men to receive disability payments was beyond the scope of this research. Nonetheless it is a problematic trend since this group has neither carers nor wives

- Analysis of the time trends in the proportion of DSP recipients who worked, suggests that there has been little change in the tendency to work over the second half of the 1990s. The younger DSP recipients tended to be more likely to work than older DSP recipients. There was little difference in the tendency of married men and unmarried men to work, while among women younger than 50, single women were more likely to work than married women. Except for single women younger than 30, women were less likely to work than men.

4.2 The Trend in Disability Payment Recipients

Table 4.2 describes changes to the stock of DSP recipients aged 20 or more, using annual LDS data from June 1995 to June 1999. The table contains four columns, differentiated by sex and marital status – single women, partnered women, single men and partnered men. For each year, the table describes the age breakdown of DSP recipients among every demographic group. For example, in 1995, amongst single women DSP recipients, those aged 20 to 29 comprised 13 per cent. In addition, for every year, the table shows the relative importance of each demographic group among total DSP recipients. For example, single women comprised 22 per cent of DSP recipients in 1995.

Between 1995 and 1999 the stock of disability payment recipients aged 20 or more increased by 23.5 per cent to 5 678. Regardless of sex and marital status the number of disability payment recipients increased over this period. However, the size of those increases varied markedly. The number of partnered women increased by 81 per cent (from 321 to 580) and the number of single women increased by 40 per cent. In contrast, the number of single men increased by 26 per cent, while the number of partnered men increased by only two per cent. In 1999, there were relatively more women regardless of marital status. Single men maintained their relative importance, but the proportion of married men fell from 38 per cent to 31 per cent. Amongst women, and single men the increase in number was gradual over the second half of the 1990s. The increase for partnered men can be singled out to 1999.

In 1995, the majority of single disability payment recipients were aged less than 50, regardless of sex. Those older than 50 were spread evenly over the subsequent years up to Age Pension age.

In contrast, the population of married female DSP recipients was spread equally between those aged less than 50 and those aged over 50. Most married men were aged 50 or more, with over 40 per cent of married recipients aged from 60 to 64. This gender difference reflects the fact many of the older married women may not have claimed disability payments in their own right. Instead, they would have claimed Wife’s Pension.

Table 4.2: The Stock of Disability Payment Recipients from June 1995 to June 1999 by Sex, Marital Status and Age

Age	Single women	Partnered Women	Single Men	Partnered men	Total
	%	%	%	%	
June 1995					
20-29	12.8	4.1	14.1	1.0	375
30-44	29.6	29.3	29.9	10.5	1032
45-49	17.8	14.6	12.5	8.0	557
50-54	19.9	22.7	12.9	13.5	705
55-59	19.3	28.0	14.1	24.1	917
60-64	0.5	1.3	15.9	41.1	966
65+ *	0.1	0	0.8	1.8	44
<i>Total</i>	<i>21.9 (1005)</i>	<i>7.0 (321)</i>	<i>33.4 (1537)</i>	<i>37.7 (1733)</i>	<i>4596</i>
June 1996					
20-29	12.4	3.2	13.7	1.0	397
30-44	28.2	26.6	29.5	10.7	1095
45-49	16.2	14.1	13.7	8.5	611
50-54	20.2	23.1	12.1	13.3	746
55-59	21.1	28.5	15.5	25.1	1039
60-64	1.7	4.5	14.7	39.5	965
65+ *	0.1	0	1.0	2.0	51
<i>Total</i>	<i>23.1 (1133)</i>	<i>7.7 (376)</i>	<i>33.9 (1660)</i>	<i>35.4 (1735)</i>	<i>4904</i>
June 1997					
20-29	12.5	3.4	13.9	1.3	428
30-44	27.4	24.9	28.7	11.9	1138
45-49	15.9	13.5	13.3	8.8	633
50-54	21.7	21.5	12.6	13.5	807
55-59	21.0	32.7	16.5	24.9	1112
60-64	1.5	4.1	14.7	38.6	960
65+ *	0.1	0	0.3	1.0	24
<i>Total</i>	<i>23.6 (1202)</i>	<i>8.6 (438)</i>	<i>33.8 (1724)</i>	<i>34.1 (1738)</i>	<i>5102</i>
June 1998					
20-29	12.0	3.7	14.1	1.1	457
30-44	26.0	21.1	29.3	12.1	1203
45-49	16.4	12.3	13.0	8.2	663
50-54	20.4	21.1	12.6	13.1	838
55-59	20.4	34.3	15.7	25.9	1182
60-64	4.7	7.2	15.1	38.2	1033
65+ *	0.2	0.2	0.3	1.3	32
<i>Total</i>	<i>25.0 (1350)</i>	<i>9.5 (511)</i>	<i>33.8(1825)</i>	<i>31.8 (1722)</i>	<i>5408</i>
June 1999					
20-29	11.2	3.8	13.7	0.8	457
30-44	26.5	22.8	29.9	12.0	1294
45-49	16.2	12.4	13.0	8.9	706
50-54	20.1	19.7	12.7	13.6	882
55-59	21.6	30.7	15.5	23.6	1197
60-64	4.4	10.5	14.8	40.1	1114
65+ *	0.1	0.2	0.4	1.0	28
<i>Total</i>	<i>24.8(1406)</i>	<i>10.2 (580)</i>	<i>34.0 (1932)</i>	<i>31.0 (1760)</i>	<i>5678</i>

Note: *This group is composed primarily of those who have not satisfied the ten years' residency requirement to receive the Age Pension. However, they do satisfy the DSP requirements if they were injured, or their condition began, while in Australia.

Amongst men, regardless of marital status, this pattern did not change substantially over the second half of the 1990s. If anything, there was a slight increase in the relative importance of single men aged 55-59. Amongst married men, there seems to have been an increase in the proportion aged 30 to 44.

Amongst female disability payment recipients there was an increase in the relative importance of women in their 50s in 1996 and 1997. In 1998 and 1999 the number of women aged 60 to 64 increased disproportionately. This partly reflects the gradual transition from age 60 to 65 for women's Age Pension age. However, it was primarily due to the effect of the abolition of the Wife Pension and Widow Pension. Women married to DSP or Age Pension recipients were forced to claim the DSP in their own right, as were widows. As confirmation, I looked at the income support status of their partners. I found that, in 1999, just over 50 per cent of partnered women aged from 50 to 64 had husbands receiving DSP or on Age Pension. The comparable figure for 1995 was closer to 40 per cent.

Table 4.3 summarises changes, over the second half of the 1990s, in the propensity for DSP recipients to work, that is report that they receive earned income, while on receipt of income support. Age, sex and marital status group disability payment recipients. In all the survey years, the tendency to work varied markedly by age.

In 1995, the likelihood of working was relatively similar for single and married men, regardless of age. That relationship still held in 1999. Younger men were more likely to work than older men in all years, although there was a marked increase, in the second half of the 1990s, in the tendency of men in their late 40s to work

There was little change in the employment patterns of women by age over the second half of the 1990s. Younger single women were more likely to work than older women were, and the younger single women were more likely to work than their male counterparts. Partnered women tended to be less likely to work than single women were for most of the observation period.

Table 4.3: Proportion of Disability Payment Recipients in Receipt of Earned Income by Sex, Age and Marital Status (%)

	Single women (%)	Partnered women (%)	Single men (%)	Partnered men (%)
1995				
20-29	16.8	15.4	14.2	17.7
30-44	12.6	6.4	12.5	11.5
45-49	5.1	2.1	6.4	7.9
50-54	3.1	6.9	5.5	1.7
55-59	2.1	2.2	1.4	4.1
60-64	0	0	1.7	2.8
65+ *	0	0	0	3.2
1996				
20-29	19.9	0	11.0	23.5
30-44	11.6	8.0	11.9	11.8
45-49	8.7	3.8	7.9	6.8
50-54	4.8	2.3	7.0	3.5
55-59	2.5	2.8	2.7	5.5
60-64	0	0	2.5	2.6
65+ *	0	(0)	0	0
1997				
20-29	17.9	0	12.0	26.1
30-44	11.9	7.3	11.5	12.1
45-49	9.4	1.7	8.7	8.5
50-54	4.2	2.1	6.0	3.4
55-59	2.4	2.1	3.5	4.4
60-64	0	0	2.4	3.4
65+ *	(1)	(0)	(5)	0
1998				
20-29	19.8	5.3	13.2	21.1
30-44	10.8	8.3	11.6	11.0
45-49	9.0	3.2	11.8	7.1
50-54	6.2	3.7	7.4	5.7
55-59	3.3	1.7	2.8	4.3
60-64	3.2	2.7	2.9	2.9
65+ *	(2)	(1)	0	3.9
1999				
20-29	15.3	18.2	13.6	14.3
30-44	12.6	8.3	11.4	12.8
45-49	8.8	4.2	11.6	10.9
50-54	8.5	3.5	7.3	5.8
55-59	4.3	2.3	4.7	4.6
60-64	1.6	6.6	2.8	3.6
65+ *	(2)	(1)	(7)	0

5 Who enters the Age Pension from Outside the Income Support System?

5.1 Introduction

Analysis presented in this section was designed to answer the question of what individual characteristics were associated with movement onto the Age Pension (from July 1995 to June 1999) from outside the income support system, that is from ‘off-income support’. As well as age, eligibility for the Age Pension depends on the extent of asset holdings, income (both earned and unearned) and residency requirements.

I report the results from a form of discrete choice modelling, known as logistic regression. This estimation technique provides a guide to the contribution made by each of an individual’s measured characteristics to the overall likelihood of the individual entering the Age Pension from ‘off-income support’. Those who enter from another form of income support will generally enter at the first eligible age. It is less likely that those who enter from outside the income support system will enter at the first eligible age.

The findings of this section are

- Roughly 45 per cent of Age Pension entrants were not receiving income support before entry, regardless of sex.
- The majority of men who had been receiving income support before entry had received a disability payment. The majority of partnered women had received a division of labour payment, such as Partner Allowance and Wife Allowance, and the majority of single women had received an older payment such as Widow Allowance. For men the next most important payment was the older payment. For women it was disability payments.
- In general, entrants to the Age Pension, who entered from ‘off-income support’, were older than those who entered from another form of income support. Disability payment recipients, regardless of sex and marital status, entered the Age Pension almost immediately they reached their eligible age. Similarly, the average age of men entering from older payments was 65. However, men who entered from other payments waited for a few years before entry, as did single women entering from the older payments.
- The logit estimation reveals some interesting differences between men and women. Married women were more likely to enter the aged pension from ‘off-income support’ than single women were, whereas marriage did not play an important role for men. Australian born women were also more likely to enter from ‘off-income support’ whereas country of birth was irrelevant amongst men. Those in receipt of unearned income were, as expected, less likely to enter the Age Pension from another form of income support. Surprisingly, homeownership had no effect on the propensity to enter the Age Pension from ‘off-income support’. Age Pensioners in paid employment were less likely to have come from another form of income support. In terms of location, country residents were more likely than city residents were to come from another form of income support, regardless of sex.

- The estimated logit model predicted that typical women, regardless of marital status, have a greater than 50 per cent chance of entering the Age Pension from ‘off-income support’. While the typical married man also exhibited a greater than 50 per cent chance of entering from ‘off-income support’, his probability was less than that of the typical married woman. Furthermore, the typical single man exhibited a less than 50 per cent chance of entering the Age Pension from off-income support.

5.2 Methodology and Data

The population of interest comprised men and women who entered the Age Pension between July 1995 and June 1999. Separate equations were estimated for males and females since analysis showed that associations between individual characteristics and the propensity to enter the Age Pension from ‘off-income support’ differed between the two groups.

The estimated equations take the form:

$$\log[\text{probability}(\text{event})/\text{probability}(\text{no event})] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

That is, the log of the odds of an event (entering the Age Pension from ‘off-income support’) occurring is a linear function of the explanatory characteristics X and parameters β .

All available individual characteristics were included as explanatory variables. The list of available explanatory variables include sex, ethnicity, marital status, location, the presence of children and whether the individual was a home-owner (owned a home outright or was purchasing a home), worked for income, or received unearned income. The individual’s location is quite important for this analysis⁴.

Table 5.1 describes those who entered the age pension during the sampling period. Most people began receiving the Age Pension close to their date of age eligibility. Surprisingly, nearly ten per cent of men entered the Age Pension before their 65th birthday, or qualifying age. Just over half the entrants were women. Roughly 45 per cent of Age Pension entrants were not receiving income support before entry, regardless of sex. Nearly 60 per cent of both men and women were Australian born. Nearly 80 per cent of male entrants were married but only 60 per cent of women. A very small group of both men and women were still supporting children under the age of 15. Three-quarters of the men were homeowners, but only 68 per cent of women. Less than ten per cent of both sexes were working. Nearly 80 per cent of men and 70 per cent of women were in receipt of unearned income.

Less than five per cent of both men and women were living overseas when they began receiving the Age Pension. While those living in Australia were far more likely to be living in cities, this tendency was more marked for women than men.

4 A small group of the age pensioners was living overseas. Generally, individuals whose Australian residence has qualified them for a portable Age Pension can receive the Age Pension while living overseas. Age Pensioners living overseas were substantially less likely to move from another form of income support onto the Age Pension. 77 per cent of the male age pensioners living overseas did not receive income support beforehand and 64 per cent of the female age pensioners living overseas did not.

Table 5.1 Characteristics of entrants to Age Pension (June 1995 to June 1999)

	Men (%)	Women (%)
Age when entered pension		
60-64*	8.7	72.0
65-69	81.6	12.5
70-74	5.4	6.9
75-79	2.6	4.3
80+	1.7	4.3
Australian Born	58.2	56.6
Identifies as ATSI	0.4	0.4
Married	77.5	59.0
Has Children	1.8	0.7
Home-owner	74.6	68.2
Earned income	6.5	6.1
Value of earned income in last fortnight(\$)	28.6 (143.7)	21.7 (112.7)
Unearned income	76.8	69.8
Value of unearned income in last fortnight (\$)	140.9 (241.9)	94.4 (168.2)
Lives overseas	4.5	1.8
Lives in city	56.6	64.9
Lives in country	38.9	33.3
NSW	32.3	35.2
Victoria	25.0	27.2
Queensland	16.5	14.7
South Australia	9.0	8.1
West Australia	8.3	8.9
Tasmania	2.7	2.7
Northern Territory and ACT	1.6	1.5
Not on income support	45.5	45.8
Total	2392	2514

Note: *Age when entered pension is constructed from the LDS 'date of birth' and 'extract date' variables. According to this age variable some men entered the pension up to nine months before their 65th birthday.

Table 5.2 details the source of Age Pension entrants by sex and marital status. About one-half of partnered men and women entered the Age Pension from 'off-income support'. The corresponding figure for single people was around 40 per cent. The majority of men who had been receiving income support before entry had received a disability payment. The next most important payment was the older payment. The majority of partnered women had received a division of labour payment, such as Partner Allowance and Wife Allowance, and the majority of single women had received an older payment such as Widow Allowance. Disability payments were also an important source for women.

Table 5.3 summarises the average age of the Age Pension entrant by sex, marital status and income support status before entry. In general Age Pension entrants who entered from outside the income support system were older than those who entered from another form of income support were. Disability payment recipients, regardless of sex and marital status, entered the Age Pension almost immediately they reached their eligible age. Similarly, the average age of men entering from older payments was 65. However, men who entered from other payments waited for a few years before entry, as did single women entering from older payments.

Table 5.2: Income Support Status Before Entry to Age Pension by Sex and Marital Status (June 1995 to June 1999)

	Men Single	Partnered	Women Single	Partnered
	%	%	%	%
Division of Labour payment	0	1.1	0.8	41.6
Disability payment	37.3	33.5	11.3	5.0
Older payment	19.3	14.9	48.5	0.1
Other payment	3.5	3.4	2.2	1.5
Not on income support	39.9	47.1	37.2	51.8
Total	539	1853	1030	1484

Table 5.3: Age at Entry to Age Pension by Income Support Status Before Entry to Age Pension, Sex and Marital Status (June 1995 to June 1999)

	Men Single	Partnered	Women Single	Partnered
Division of Labour payment	N/A	N/A	N/A	61.9 (3.1)
Disability payment	65.3 (1.6)	65.2 (0.7)	60.9 (0.3)	60.9 (0.5)
Older payment	65.0 (0.0)	65.0 (0.0)	67.0 (8.2)	N/A
Other payment	67.0 (3.8)	67.5 (5.1)	66.7 (8.3)	64.1 (6.4)
Not on income support	68.8 (6.1)	67.5 (4.2)	68.5 (8.6)	64.0 (4.4)
Total	66.7 (4.4)	66.4 (3.3)	66.8 (8.2)	63.0 (4.0)

Those entrants who were older than the qualifying age for age pension receipt may have needed to wait until they satisfied the age pension residential eligibility requirement.⁵ Other payments tend to have less stringent residential requirements. Some 44 per cent of the single women who came from older payments were born in Australia and their average age at entry to Age Pension was 63.0. The average age at entry of the overseas born women was 70.1.⁶

5.3 Logit Regression Results

Table 5.4 reports the estimated coefficients, and their accompanying measures of significance or chi-squared statistics, from logit regressions for male and female age pensioners describing their propensities to enter the Age Pension from 'off-income support'. There are two sets of estimated coefficients for both men and women. They differ in the set of explanatory variables used to explain the Age Pensioner's location,

5 One eligibility requirement for Age Pension is that the individual must have been an Australian resident for at least 10 years continuously; or an Australian resident for a total of at least 10 years but with broken residence periods – one of which must have been at least five years continuously; a refugee; or a women widowed in Australia and living in Australia for at least two years.

6 There was no residency requirement for the Widow B Pension. To qualify for a Widow Allowance the applicant must be in Australia and, in general have resided there for the previous 26 weeks.

Table 5.4: Estimated Coefficients from Logit Regression Explaining Entry to Age Pension From Outside Income Support System (chi-squared statistics in brackets)

	Men Model 1	Model 2	Women Model 1	Model 2
Married	-0.000 (0.000)	0.010 (0.007)	0.717 (50.129)*	0.706 (48.655)*
Has Children	-1.067 (5.952)*	-1.084 (6.259)*	-0.254 (0.140)	-0.315 (0.219)
Australian Born	0.133 (1.668)	0.029 (0.086)	0.307 (9.690)*	0.227 (5.560)*
Identifies as ATSI	1.293 (3.414)**	1.169 (2.773)**	-0.375 (0.212)	-0.453 (0.311)
Home-owner	0.158 (1.638)	0.154 (1.532)	-0.043 (0.142)	-0.051 (0.203)
Earned income	-0.150 (0.128)	-0.157 (0.139)	-0.753 (3.079)**	-0.778 (3.291)**
Value of earned income	7.62E-03 (8.131)*	7.85E-03 (8.719)*	5.78E-03 (7.856)*	5.93E-03 (8.280)*
Earned income squared	-3.14E-06 (1.348)	-3.32E-06 (1.533)	-3.41E-06 (3.535)**	-3.53E-06 (3.798)**
Unearned income	0.475 (13.023)*	0.465 (12.458)*	0.511 (17.940)*	0.507 (17.501)*
Value of unearned income	5.22E-03 (159.73)*	5.26E-03 (161.67)*	8.81E-03 (122.516)*	8.76E-03 (121.119)*
Unearned income squared	-1.36E-06 (30.199)*	-1.37E-06 (30.407)*	-5.48E-06 (23.062)*	-5.40E-06 (22.339)*
Lives in city	-1.412 (21.791)*		-0.837 (5.899)*	
Lives in country	-1.714 (30.066)*		-1.022 (8.349)*	
NSW		-1.469 (22.462)*		-0.870 (6.172)*
Victoria		-1.434 (21.195)*		-0.971 (7.629)*
Queensland		-1.300 (16.410)*		-0.597 (2.709)**
South Australia		-1.739 (26.723)*		-0.890 (5.648)*
West Australia		-1.452 (18.428)*		-0.831 (5.026)*
Tasmania		-2.143 (24.370)*		-0.977 (5.003)*
Northern Territory and ACT		-1.322 (7.732)*		-0.874 (2.606)
Intercept	0.059 (0.036)	0.054 (0.030)	-0.852 (5.903)*	-0.831 (5.599)*
-2 Log L	2698.960	2697.419	2878.505	2875.00
AIC	2726.960	2735.419	2906.505	2913.00
Sample size	2392	2392	2514	2514
Events (%)	45.5		45.8	
Correctly modelled events	54.2	53.4	57.0	56.9
Correctly modelled non-events	85.4	84.7	80.4	79.8

Note * At 5% level of significance
 ** At 10% level of significance

that is either city/country or state/territory of residence. The two measures of location can not appear together in the same regression. They both have the same excluded category, that is those living overseas. Model 1 includes the city country split and model 2 includes the state or territory of location.

The estimated equations fitted the data reasonably well, despite the paucity of information on the individual's characteristics. The model correctly predicted between 50 and 60 per cent of those who entered the Age Pension from outside the income support system and between 80 and 85 per cent of those who entered from inside the income support system.

The logit estimation reveals some interesting differences between men and women. Married women were more likely to enter the aged pension from 'off-income support' than single women were, whereas marriage did not play an important role for men. The presence of dependent children had no implications for women, whereas men with dependent children were more likely than other men were to enter the Age Pension from another form of income support.

Australian born women were also more likely to enter from 'off-income support' whereas country of birth was irrelevant amongst men. Men self-representing as ATSI were less likely to enter the Age Pension from another form of income support although there was no similar effect for women.

Surprisingly, there was no significant relationship between home ownership and the propensity to enter the Age Pension from outside the income support system. Women and men in receipt of unearned income were, as expected, less likely to enter the Age Pension from another form of income support. As the value of unearned income rose, the propensity to enter from another form of income support fell, although it did so at a decreasing rate.

Age Pensioners in paid employment were also less likely to have come from another form of income support. The more they earned the less likely they were to come from inside the income support system.

In terms of location, those residing in Australia were more likely to have come from another form of income support. Country residents were more likely than city residents to come from another form of income support were, regardless of sex. In terms of the state/territory of residency, I found that Tasmanians were the most likely to enter the Age Pension from another form of income support. Tasmania tends to be the State with the highest unemployment rate. Queenslanders were least likely to enter from another payment.

To illustrate the results of the logit estimation, Table 5.5 summarises the predicted probabilities of different types of people. I separate men and women into typical married and single types. The typical married person, regardless of sex, is; Australian born, has no children, does not identify as ATSI, owns his/her own home, does not work but receives unearned income, and lives in a city in NSW. The typical unmarried person, again regardless of sex, has the same characteristics apart from not owning a home. I allocated a value of unearned income to each group on the basis of the group's

Table 5.5: Predicted Probability of Entering the Age Pension from ‘Off-income Support’

	Men Single	Married	Women Single	Married
Has Children	No	No	No	No
Australian Born	Yes	Yes	Yes	Yes
Identifies as ATSI	No	No	No	No
Home-owner	No	Yes	No	Yes
Earned income	No	No	No	No
Unearned income	Yes	Yes	Yes	Yes
Value of unearned income	\$152	\$191	\$174	\$113
Unearned income squared	\$60,962	\$116,28	\$76,507	\$40,082
Probability of entering from off-income support				
Lives in city Australia	0.491	0.597	0.560	0.641
Lives in NSW	0.449	0.558	0.536	0.613
Lives in NSW and born overseas	0.442	0.551	0.479	0.558

average earnings. Of those who received unearned income in the fortnight before entry to the Age Pension, married men received \$191 on average, whereas single men received \$152, married women received \$113 and single women \$174.

The estimated model predicted that typical women, regardless of marital status, had a greater than 50 per cent chance of entering the Age Pension from ‘off-income support’. The probability for single women living in an Australian city was 0.56. While the typical married man also exhibited a greater than 50 per cent chance of entering from ‘off-income support’, this probability was less than that of married women. Furthermore, the typical single man exhibited a less than 50 per cent chance of entering the Age Pension from off-income support.

Australians born overseas made up over 40 per cent of the group entering the Age Pension. Overseas born men were slightly more likely than Australian born men were to enter the Age Pension from another form of income support. In contrast women born overseas were substantially more likely to enter the Age Pension from another form of income support. In fact single women living in NSW and born overseas had a greater than 50 per cent chance of entering from another form of income support.

6 Exiting from Unemployment Payments and Disability Payments

6.1 Introduction

Analysis presented in Sections 3 and 5 showed that a substantial proportion of those people entering the Age Pension was previously receiving disability payments. Over the second half of the 1990s, it is possible that it became increasingly likely for unemployment payment recipients to flow onto disability payments.

This section answers three questions,

- 1 What personal characteristics affect the length of time an individual spends on unemployment payments before exiting income support?
- 2 What personal characteristics affect the propensity of those on unemployment payments to move onto disability payments? and
- 3 What personal characteristics affect the length of time an individual spends on disability payments before exiting income support?

Analysis was undertaken using hazard rate analysis or duration analysis. The results are based upon analysis of those people who entered the income support system between July 1995 and June 1999.

The main findings of this section are

- The estimated probability of exiting the income support system from unemployment payments decreased with the length of the unemployment payment spell. This suggests that individual characteristics crucial to explaining the exit rate from unemployment payments, such as education, were missing from the analysis. Alternatively, or additionally, this finding implies that job seekers find it more difficult to find work the longer their spell of unemployment.

The probability that women would exit unemployment payments was consistently higher than that of men's.

The tendency to exit the income support system from unemployment payments decreased with age. Age also affected the tendency to exit through its interactions with other individual characteristics. For example, older married women (aged 50 or more) were more likely to exit than single women and younger married women.

Those who worked while receiving income support were generally less likely to exit than non-workers. The propensity to exit increased with earnings, but working did not have a positive effect until earnings exceeded \$350 per fortnight for younger men and women and close to \$600 per fortnight for those older than 50.

Both men and women with unearned income were more likely to exit. The propensity for men to exit increased with the value of that income, and the effect was larger among older men.

- If there was a tendency for unemployed persons to move onto disability payments it appears not to be intensified by the length of time spent receiving unemployment payments. The tendency to move from unemployment payments to disability payments increased with age for both men and women. Young Australian born women were more likely to exit than those born overseas and their older counterparts. Male homeowners were more likely to exit to disability related payments regardless of age. Older female homeowners were more likely to exit than their younger counterparts and non-homeowners.
- The propensity to exit the income support system from disability payments decreased with the length of the spell. Men of prime working age (20 to 44 years) were most likely to exit. The propensity to exit decreased with age. Young Australian women were less likely to exit than their older counterparts and overseas born women, regardless of age. Older women who identified as ATSI were more likely to exit than their younger counterparts and other women. Men who worked while receiving disability payments were less likely to exit than non-workers were, until they earned \$260 per fortnight. Amongst younger women those who worked were always more likely to exit, and the differential increased with earnings. This relationship did not exist among older women. Younger men living in cities were less likely to exit than their older counterparts and men who lived outside cities.

6.2 Duration Analysis Described

The analysis focuses on the length of unemployment payment and disability payment spells. The data may contain multiple spells for the same person. In essence, I treated each spell as independent, regardless of whether it was for the same person. Each spell was observed from its commencement. A spell terminated if the individual did not receive income support for at least two payments/fortnights or, in the case of exit from unemployment payments to disability payments, received disability payments for at least two payments. The spell continued if the individual returned to unemployment related or disability related income support within two payment dates. All other exits were treated as censored data, as were the spells of those who were receiving income support at the end of the survey period.

The dependent variables in this analysis were the fortnightly hazard rates of exit

- i) from a spell of unemployment payment receipt to off income support;
- ii) from a spell of unemployment payment receipt to disability payment receipt; and
- iii) from a spell of disability payment receipt to off income support.

The hazard rate is the conditional probability that a current unemployment payment recipient exits income support during fortnight t , having stayed on the unemployment payment until period $t-1$. The survival function is the probability that the spell is at least of length t . Therefore, the hazard and survival functions are related. Each can be derived from the other.

One approach to illustrating the hazard function is non-parametric estimation. For example, the Kaplan-Meier approach estimates the survivor function using the proportion of the total individuals observed to have exited at or after t . The Kaplan-

Meier function does not allow for the effect of covariates, such as individual characteristics, on exit rates.

Parametric models of continuous survival time are frequently used in duration analysis. These allow for the effects of covariates (such as individual characteristics) on survival time by using semi-parametric or partial likelihood techniques. This controls for observed heterogeneity in the form of personal characteristics.

In this analysis, I assume that individuals with identical values of the explanatory variables have exactly the same probability of leaving unemployment payment. I have ignored the potential problem of unobserved heterogeneity, that is the possibility that outcomes, predicted by the model, might differ from their actual value because, for example, of an unobserved characteristic.

Since researchers do not know the nature of the underlying hazard of exit, they often choose a convenient function for analysis. Doing this imposes a structure on the data, and can distort the estimated hazard rates. I use several models to estimate the baseline hazard; the Exponential, Weibull, Lognormal and Log-logistic functions. For each of the transitions, I tested which of the parametric models was more appropriate.

I found in all cases that the Lognormal model was the most appropriate. It is an accelerated failure time model of the form

$$\ln(t_i) = \mathbf{XB} + Z_i \quad 6.1 \text{ or}$$

$$\ln(t_i) = \exp(\mathbf{XB}) + \exp(Z_i) \quad 6.2$$

where t_i represents the duration of the spell, \mathbf{X} are the individual characteristics relating to the spell, \mathbf{B} represents the coefficients, Z is the underlying hazard and \exp is the exponential. When $\exp(\mathbf{XB})$ is greater than one survival time is positively related to the characteristic in question, and for values of $\exp(\mathbf{XB})$ less than one the survival time is negatively related.

In duration analysis, there are two potential problems, left and right censoring or lack of information on commencement and completion of the spell respectively. Theoretically, we are modelling the individual's length of attachment to unemployment payments or disability payments before exiting to a particular destination. However, we only observe spells. I denote a spell as finishing if it finished for two payments, or one month.

Left censoring is not a concern for this analysis. I exclude from the analysis the 1 per cent stock sample because the data set did not contain information on the start date of the spells under way in the stock sample. I also exclude those who flowed onto payments in the month following the stock sampling on the basis that they may have been receiving income support in the payment period before the stock sampling. The information on time on income support can only be correctly calculated for those whose spells we observe.

Since completed spells were not observed for many of the individuals, the right censored observations are particularly problematic. This means that simple methods of observing spell lengths are unavailable. This provides a bias towards shorter spells, and is of particular concern when focusing on the duration of spells. The right censoring was handled econometrically.

6.3 The Data

Table 6.1 describes the length of unemployment spells by sex and age. In this analysis, a spell ended when the recipient left income support or moved from unemployment payments to disability payments. Many of the spells were right censored, that is they were continuing in June 1999. At some time after June 1999 the spell may have finished. In the summary statistics, the censored spells appear as completed spells.

Table 6.1: Length of Unemployment Spell by Sex and Age at Commencement of Spell

	Men	Age					
		<30	30-45	46-49	50-54	55-59	60-64
	%	%	%	%	%	%	%
1-3 fortnights	23.8	25.8	21.9	21.7	18.7	17.8	25.2
4-13 fortnights	40.7	42.7	40.0	36.4	36.9	31.0	32.2
14-26 fortnights	19.3	18.0	19.6	19.4	21.3	26.5	38.4
27-39 fortnights	7.3	6.6	8.1	8.8	9.0	8.6	3.4
40-52 fortnights	3.8	3.0	4.4	5.8	5.2	7.1	0.9
53-78 fortnights	3.6	2.9	4.3	4.9	5.9	6.3	0.0
79 + fortnights	1.5	1.0	1.8	3.0	3.0	6.2	0.0
	31,793	17,439	9,429	1,886	1,378	1,118	563

	Women	Age				
		<30	30-45	46-49	50-54	55-64
	%	%	%	%	%	%
1-3 fortnights	23.5	25.8	19.3	17.6	18.6	14.8
4-13 fortnights	42.0	44.3	39.4	35.9	34.3	32.6
14-26 fortnights	19.0	18.0	20.1	21.5	21.4	25.7
27-39 fortnights	7.1	5.9	9.5	10.6	8.3	9.8
40-52 fortnights	3.7	2.8	4.8	5.4	6.3	7.4
53-78 fortnights	3.4	2.4	4.7	6.3	7.7	3.8
79 + fortnights	1.3	0.8	2.2	2.9	3.4	1.2
	15,712	10,524	3,035	990	743	420

Remarkably, men and women exhibited much the same patterns of spell length. Close to forty per cent of people had spells of unemployment payment receipt lasting from 4 to 13 fortnights. Nearly one-quarter had even shorter spells and another 19 per cent spent between half and one year on unemployment payments. The proportion of men and women with spells lasting half a year or less fell with age (as at commencement of the spell).

Table 6.2 summarises the income support status, by age, of individuals at the completion of their spells. It shows that only 18 per cent of men's unemployment spells commenced in the period were unfinished in June 1999. The corresponding figure for women's spells was 20 per cent. About three-quarters of men's and women's spells ended with the individual leaving income support. In terms of age, the proportion of spells ending with exit from income support was highest for men and women aged in their 20s. The propensity for the spell to end in exit from income support decreased with age for both sexes. The propensity to move to disability payments increased with age, but the propensity to move onto other payments remained relatively constant until the individuals were aged 55. Then it increased substantially as men and women moved onto other forms of income support such as Newstart Mature Age Allowance and Widow Allowance.

Table 6.2: States of Unemployment Payment Recipients at End of Spell by Sex and Age at Commencement of Spell

	Men	Age <30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-59 (%)	60-64 (%)
Age Pension	0.1	0	0	0	0	0	5.0
Disability payments	1.9	0.6	1.9	3.6	7.6	8.9	9.4
Other income support	2.7	2.7	0.5	0.5	0.2	13.4	32.0
Off income support	77.3	81.9	76.8	73.2	65.5	53.9	35.0
Stayed on	18.0	14.8	20.8	22.7	26.7	23.8	18.6
	31,793	17,439	9,429	1,886	1,378	1,118	563

	Women	Age <30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-64 (%)
Age Pension	0.1	0	0	0	0	2.4
Disability payments	1.9	0.4	3.3	5.2	6.9	11.0
Other income support	5.1	5.7	1.8	3.1	7.1	15.5
Off income support	72.6	76.4	68.2	63.6	60.0	48.1
Stayed on	20.3	17.5	26.7	28.1	26.0	23.0
	15,712	10,524	3,035	990	743	420

Tables 6.3 and 6.4 replicate Tables 6.1 and 6.2 for exit from disability payments. Comparison of Tables 6.3 and 6.1 suggests that the disability payment spells tend to be longer than the unemployment spells for both men and women. Among men, those aged in their 50s tend to have the longest spells. The corresponding range for women was 45 to 54.

Table 6.4 shows that over 70 per cent of the disability payment spells were incomplete. 22 per cent of the men's spells ended in exit from income support compared with 16 per cent of women's spells. The proportion of spells ending in exit from income support declined slightly with age until men reached the age of 50 to 54 when it levelled out at 18 per cent. There was no clear age trend for women's spells. Women aged 30 to 45 were most likely to exit from disability payments. The exit rate for other age groups hovered between 11 and 15 per cent.

6.4 Exiting from Unemployment Payments

We begin by showing the overall hazard function using the Kaplan-Meier method. This shows the fraction of spells that end in exit from unemployment payments during successive discrete time intervals. All spells are aligned on a time-line with the same start point, regardless of when the spell commenced. The measure for the fifth payment fortnight, for example, is the number of observations leaving unemployment payments during the fifth payment fortnight divided by the number of spells that could have terminated.

Figure 6.1 displays Kaplan-Meier estimates of the empirical hazards for exits from unemployment related benefits to off-income support and from unemployment related benefits to disability payments. This reflects the underlying hazard function excluding the effects of individual characteristics.

Figure 6.1 Kaplan-Meier Hazard function: Unemployment payment to off income support and to DSP

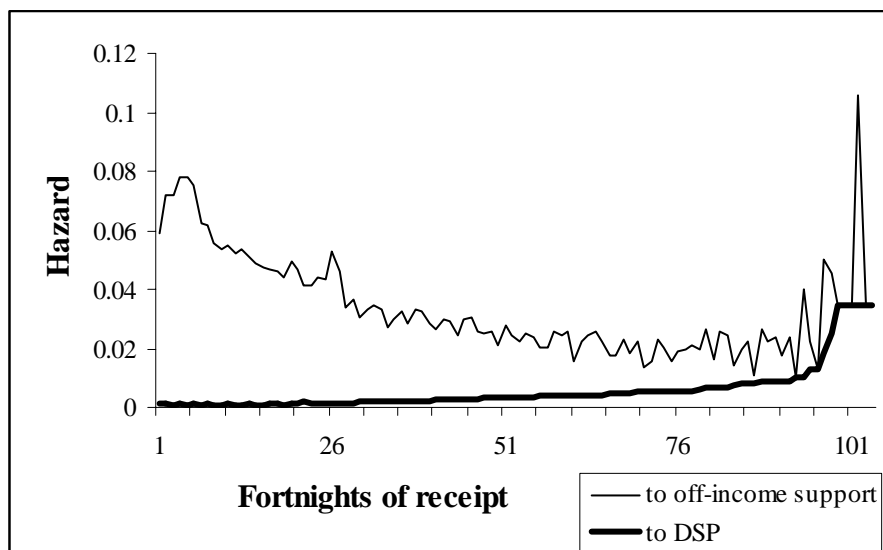


Table 6.3: Length of Disability Spell by Sex and Age at Commencement of Spell

	All men (%)	<30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-59 (%)	60-64 (%)
1-3 fortnights	9.1	8.3	9.9	11.5	9.0	8.3	8.5
4-13 fortnights	16.8	18.5	19.4	18.4	13.0	13.9	17.5
14-26 fortnights	15.2	16.0	13.8	16.4	13.7	13.3	18.9
27-39 fortnights	11.8	12.1	13.4	9.4	11.5	9.5	13.6
40-52 fortnights	13.9	13.2	10.5	10.7	12.4	17.0	18.0
53-78 fortnights	16.5	16.3	15.7	18.0	18.0	16.6	15.3
79 + fortnights	16.8	15.7	17.3	15.6	22.4	21.5	8.3
Total	2,339	363	515	244	322	483	412

	All women (%)	<30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-64 (%)
1-3 fortnights	10.5	14.8	9.2	10.0	10.3	9.6
4-13 fortnights	13.7	12.2	16.0	11.1	10.7	15.5
14-26 fortnights	15.5	15.3	16.8	13.9	15.3	15.2
27-39 fortnights	15.3	14.3	16.3	16.7	13.2	15.5
40-52 fortnights	11.2	11.2	7.3	13.9	9.9	14.9
53-78 fortnights	18.3	15.8	18.8	16.7	21.1	18.1
79 + fortnights	15.6	16.3	15.7	17.8	19.4	11.4
Total	1,318	196	357	180	242	343

Table 6.4: States of Disability Payment Recipients at End of Spell by Sex and Age at Commencement of Spell

	All men (%)	<30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-59 (%)	60-64 (%)
Age Pension	3.8	0	0	0	0	0.2	21.1
Unemployment payments	1.7	2.5	2.5	3.3	0.3	1.0	1.0
other income Support	0	0	0	0	0	0	0
Off income support	21.5	26.2	24.3	24.6	18.3	18.2	18.4
Stayed on	73.0	71.3	73.2	72.1	81.4	80.6	59.5
Total	2,339	363	515	244	322	483	412
	All women (%)	<30 (%)	30-45 (%)	46-49 (%)	50-54 (%)	55-59 (%)	60-64
Age Pension	3.7	0	0	0	0	11.1	51.9
Unemployment payments	1.8	3.6	1.7	2.2	1.7	0.9	0
Other income Support	1.1	1.5	1.1	2.2	1.2	0	3.7
Off income support	15.6	12.2	22.1	10.6	14.9	13.9	11.1
Stayed on	77.8	82.7	75.1	85.0	82.2	74.1	33.3
Total	1,318	196	357	180	242	316	27

It appears from Figure 6.1 that the fortnightly hazard rates for exit from the income support system rose in the first few fortnights of the unemployment spell and then declined at a declining rate. There could be ‘negative duration dependence’ This term signifies the decreasing tendency of an individual to exit unemployment payments as the length of time she spent on income support increased. The job seeker may be stigmatised in the eyes of employers by the length of time she has been unemployed.

In contrast, the rate of movement from unemployment payment receipt to disability payment was relatively constant over the extent of the spell lengths.

Given the shape of the Kaplan-Meier function I considered four versions of the proportional hazards model for the base-line hazard function; the Weibull, exponential, Gompertz and log-linear models. I preferred the log-linear model on the basis that it had the best descriptive power as described by the log-likelihood values.

Heterogeneity amongst unemployment benefit recipients is a potential explanation for the initial increase in the base-line hazard, followed by a steady decline. One group of recipients could be fast exiters with an increasing hazard. Individuals with jobs lined up probably do not apply for unemployment benefits, and it takes some time for those that do to find a job. The remainder of the recipients might be slow exiters with a declining hazard. So the shape could arise from the sorting process. The first group explains the rise in the hazard in the short term. As members of this group leave the exit pattern of the second group increasingly dominates the patterning.

The estimated effects of the covariates on the hazard function for exit from unemployment payment receipt to off income support and to disability payment receipt

are presented in Tables 6.5 and 6.6 for men and women respectively. I estimated separate equations for men and women. The characteristics of the individuals at the commencement of each spell are also recorded in the tables.

Exit to off-income support

The estimated coefficient does not have a simple interpretation as a partial derivative analogous to the interpretation of coefficients in the linear regression model. The sign of the coefficient indicates the direction of the effect of the explanatory variable on the conditional probability that the individual's spell will continue. The numerical value of this effect, which is the partial derivative, depends on duration and in general on other included variables.

There were substantial differences in exit probabilities associated with age. Regardless of sex, those aged less than 30 were most likely to exit income support. There was a steady decline in the proclivity to exit as both men and women aged.

In terms of family responsibilities, the estimated hazard rate of men was unrelated to marriage, the presence of children and the age of the youngest child. However, the estimated hazard rate of women was related to family responsibilities. Older married women (aged 50 or more) were more likely to exit than single women and younger married women. The last two groups exhibited much the same proclivity to exit unemployment payments.

A small number of mothers, both married and single, received 'unemployment' payments – 478 of the 2 714 partnered women spells and 113 of the 12 998 single women spells. Why would mothers receive unemployment payments rather than Parenting Payment? Some mothers might think it more moral to receive this form of income support. The partners of some of these women might be receiving Parenting Payment or the husband might be self-employed but earning sufficiently little that the wife could receive unemployment payments. Amongst the single mothers, some might prefer not to have their relationship investigated.

The likelihood of exiting fell with the number of children. However, women with babies were more likely to exit than both childless women and women with older children.

Australian born women were more likely to exit than those born overseas, although this relationship was not observed amongst men. Those who self-represented as ATSI were less likely to exit, regardless of sex.

In terms of financial situation, homeowners were more likely to exit, regardless of sex. Home-ownership might signify that the individual has substantial work experience, thus indicating those more likely to find work. Alternatively, some homeowners may be more motivated to find employment to meet loan repayments. Similarly, those with unearned income in the fortnight were more likely to exit. Unearned income might also be associated with past employment. The proclivity to exit for women was unrelated to the amount of unearned income. However, the likelihood of exiting among older men increased, at a decreasing rate, with the amount of unearned income.

Table 6.5: Log-linear Hazard Regression Model of Duration of Unemployment Payment Receipt: Men

Characteristics	Means	Estimated coefficients with z-statistics in brackets	
		Exit to off income support	Exit to disability payment receipt
Age in years			
< 30	53.8	-1.119 (-10.63)*	2.786 (10.07)*
30-44	30.2	-0.797 (-7.54)*	2.072 (7.68)*
45-49	5.9	-0.630 (-5.72)*	1.659 (5.69)*
50-54	4.5	-0.465 (-5.73)*	0.638 (3.30)*
55-59	3.6	-0.159 (-1.92)**	0.370 (1.96)*
Australian Born	77.6	0.030 (0.52)	0.194 (1.33)
Identifies as ATSI	3.6	0.531 (2.08)*	-0.348 (-0.76)
Married	28.1	-0.006 (-0.08)	0.452 (2.46)*
Number of dependents#	0.34 (0.88)	0.025 (1.35)	-0.103 (-1.06)
Age of youngest dependent			
0-2	6.4	0.076 (1.46)	0.708 (2.00)*
3-4	3.0	-0.027 (-0.43)	0.869 (2.08)*
5-9	4.1	0.008 (0.14)	0.486 (1.48)
9-15	3.0	0.009 (0.17)	0.098 (0.40)
Home-owner	17.6	-0.113 (-1.71)**	-0.509 (-3.08)*
Earned income	13.2	0.311 (2.80)*	1.929 (2.97)*
Value of earned income in last fortnight (\$)	71.5 (373.4)	-1.01E-03 (-5.54)*	-3.73E-03 (-1.43)
Earned income squared in last fortnight(\$)		2.14E-07 (3.72)*	4.15E-06 (1.76)**
Unearned income	14.5	-0.138 (-2.23)*	0.133 (0.79)
Value of unearned income in last fortnight(\$)	6.3 (52.9)	-4.54E-04 (-1.75)**	8.40E-04 (0.64)
Unearned income squared in last fortnight(\$)		6.36E-09 (0.72)	-1.75E-08 (-0.54)
Lives in city	58.3	-0.053 (-0.93)	0.164 (1.14)
Northern Territory	1.6	-0.490 (-5.72)*	0.985 (1.65)**
NSW	30.9	-0.120 (-1.83)**	0.411 (1.31)
Victoria	21.6	-0.033 (-0.51)	0.385 (1.22)
Queensland	22.5	-0.233 (-3.51)*	0.275 (0.86)
South Australia	8.2	-0.010 (-0.15)	0.115 (0.35)
West Australia	10.9	-0.359 (-5.34)*	0.713 (2.09)*
Tasmania	2.9	0.040 (0.51)	0.156 (0.41)
Continued from another payment	24.8	0.006 (0.10)	-0.345 (-2.06)*
Young*Australian born	71.5	-0.055 (-0.89)	-0.252 (-1.32)
Young*ATSI	3.5	-0.433 (-1.68)**	0.688 (1.28)
Young*Married	22.0	-0.018 (-0.25)	0.104 (0.42)
Young*homeowner	11.7	-0.120 (-1.68)**	0.229 (1.00)
Young*unearned income	9.9	0.022 (0.32)	-0.376 (-1.57)
Young*value of unearned income	3.4 (27.9)	-7.76E-04 (-2.01)*	-1.79E-03 (-0.64)
Young*value of unearned income squared		2.60E-07 (1.82)**	3.38E-07 (0.35)
Young*earned income	11.8	-0.248 (-2.14)*	-0.885 (-1.03)
Young*value of earned income	62.4 (359.5)	9.17E-04 (4.85)*	2.67E-03 (0.67)
Young*value of earned income squared		-2.14E-07 (-3.70)*	-1.37E-06 (-0.38)
Young*city	52.3	-0.074 (-1.25)	-0.135 (-0.78)
Constant		3.545 (29.36)*	4.710 (12.24)*
ln_sig		0.200 (16.81)*	0.723 (25.01)*
Sigma		1.221	2.060
Log likelihood		-44,798.19	-2814.03
Number of spells		31,793	31,793
Number ending in state		24,580	609

Notes: # dependents are aged 15 or less
 ** Significant at 10 per cent level
 * Significant at 5 per cent level

Table 6.6: Log-linear Hazard Regression Model of Duration of Unemployment Payment Receipt: Women

Characteristics	Means	Estimated coefficients with z-statistics in brackets	
		Exit to off income support	Exit to disability payment receipt
Age in years			
< 30	66.2	-1.333 (-9.07)*	3.282 (6.90)*
30-44	19.4	-0.924 (-6.21)*	1.787 (3.92)*
45-49	6.4	-0.687 (-4.45)*	1.455 (3.04)*
50-54	4.8	-0.365 (-4.00)*	0.749 (2.95)*
Australian Born	79.8	-0.101 (-1.04)	0.336 (1.19)
Identifies as ATSI	3.2	0.166 (0.45)	-0.067 (-0.06)
Married	17.3	-0.204 (-2.12)*	0.838 (2.74)*
Number of dependents#	0.08(0.44)	0.128 (2.25)*	0.033 (0.09)
Age of youngest dependent			
0-2	1.1	-0.370 (-2.46)*	1.327 (0.98)
3-4	0.5	-0.237 (-1.11)	0.804 (0.616)
5-9	1.2	-0.106 (-0.64)	1.474 (1.00)
9-15	0.9	-0.122 (-0.87)	-0.138 (-0.22)
Home-owner	13.0	-0.178 (-1.92)**	-0.593 (-2.13)*
Earned income	18.8	0.591 (3.26)*	1.250 (1.12)
Value of earned income (\$)	84.7 (1161.0)	-1.83E-03 (-3.35)*	4.83E-03 (1.07)
Earned income squared (\$)		5.47E-07 (1.43)	-1.62E-06 (-0.83)
Unearned income	15.9	-0.232 (-2.29)*	-0.005 (-0.02)
Value of unearned income (\$)	6.3 (87.7)	-4.06E-04 (-0.51)	-8.93E-03 (-1.00)
Unearned income squared (\$)		1.92E-08 (0.13)	2.33E-05 (1.16)
Lives in city	61.2	-0.245 (-2.55)*	0.153 (0.53)
Northern Territory	1.6	-0.308 (-2.64)*	-0.531 (-0.45)
NSW	30.5	-0.066 (-0.78)	-1.127 (-1.12)
Victoria	24.3	0.085 (1.00)	-1.256 (-1.25)
Queensland	21.4	-0.120 (-1.39)	-0.947 (-0.94)
South Australia	7.8	0.058 (0.64)	-1.277 (-1.25)
West Australia	10.2	-0.120 (-1.37)	-1.188 (-1.17)
Tasmania	2.7	0.191 (1.77)**	-1.050 (-0.99)
Continued from another payment	19.1	0.232 (2.13)*	-0.624 (-2.02)*
Young*Australian born	74.5	0.025 (0.25)	-0.613 (-1.79)**
Young*ATSI	3.1	-0.005 (-0.02)	-0.362 (-0.28)
Young*Married	14.5	0.200 (1.95)**	-0.403 (-1.07)
Young*homeowner	8.8	0.026 (0.25)	0.662 (1.86)**
Young*unearned income	12.4	0.061 (0.57)	-0.404 (-1.02)
Young*value of unearned income	4.5 (85.9)	-1.05E-03 (-1.07)	4.48E-03 (0.65)
Young*value of unearned income squared		6.47E-07 (1.36)	-2.30E-05 (-1.15)
Young*earned income	17.3	-0.544 (-2.95)*	0.995 (0.74)
Young*value of earned income	78.0 (1159.4)	1.75E-03 (3.20)*	-9.11E-03 (-1.52)
Young*value of earned income squared		-5.46E-07 (-1.43)	7.33E-06 (1.74)**
Young*city	56.3	0.054 (0.55)	0.012 (0.04)
Constant		3.784 (22.85)*	6.583 (6.08)*
ln_sig		0.187 (29.64)*	0.831 (20.28)*
Sigma		1.206	2.295
Log likelihood		-21,040.29	-1,362.27
Number of spells	15, 712	15,712	15,712
Number ending in state		11,385	292

Notes: # dependents are aged 15 or less
 ** Significant at 10 per cent level
 * Significant at 5 per cent level

The estimated coefficients suggest that individuals who worked while receiving unemployment payments were less likely to exit than non-working recipients were if they earned less than \$332 per fortnight for young men, \$363 per fortnight for young women, \$592 for older men and \$597 for older women. Weekly earnings greater than these rates were associated with an increased proclivity to exit. In October 2000, a single Newstart Allowance recipient aged 30 would have lost her benefit completely if she earned \$586 per fortnight.

Location played an important role. Those living in cities, regardless of sex, were more likely to exit. The state of residence also played a role, although the pattern was not consistent for men and women. Among men, Western Australians were most likely to exit, followed by those living in the Northern Territory, Queenslanders, and all the rest. Women living in the Northern Territory were most likely to exit and Tasmanian women the least likely, with remaining women in between.

Women who moved from one payment to another were less likely to exit than women who entered unemployment from outside the income support system were.

Figures 6.2 and 6.3 show the estimated hazard functions for women and men respectively. These functions were calculated for Australian born married people aged less than 30, who had no children, did not work or have unearned income, owned their home, lived in a city in NSW and had not received income support immediately before the unemployment spell. The proportional hazard model implies that other groups will have curves of a similar shape, though their curve may be higher or lower vertically. The hazard functions show that the hazard rate decreased in size with the duration of length of the spell, at a declining rate. Therefore, the length of time spent on income support appears to have a negative impact on the ease of exiting income support for the unemployed. Remember, however, that this analysis did not control for unobserved differences between individuals. It may be that the more educated unemployed person, for example, may find work relatively quickly leaving a pool of poorly educated unemployed. Chapman and Smith (1993) and Chalmers and Kalb (2000) found no negative duration dependence for Australia, while Brooks and Volker (1986) and Stromback et al. (1998) did.

Figure 6.2 Estimated Hazard function: Unemployment payment to off income support - Women

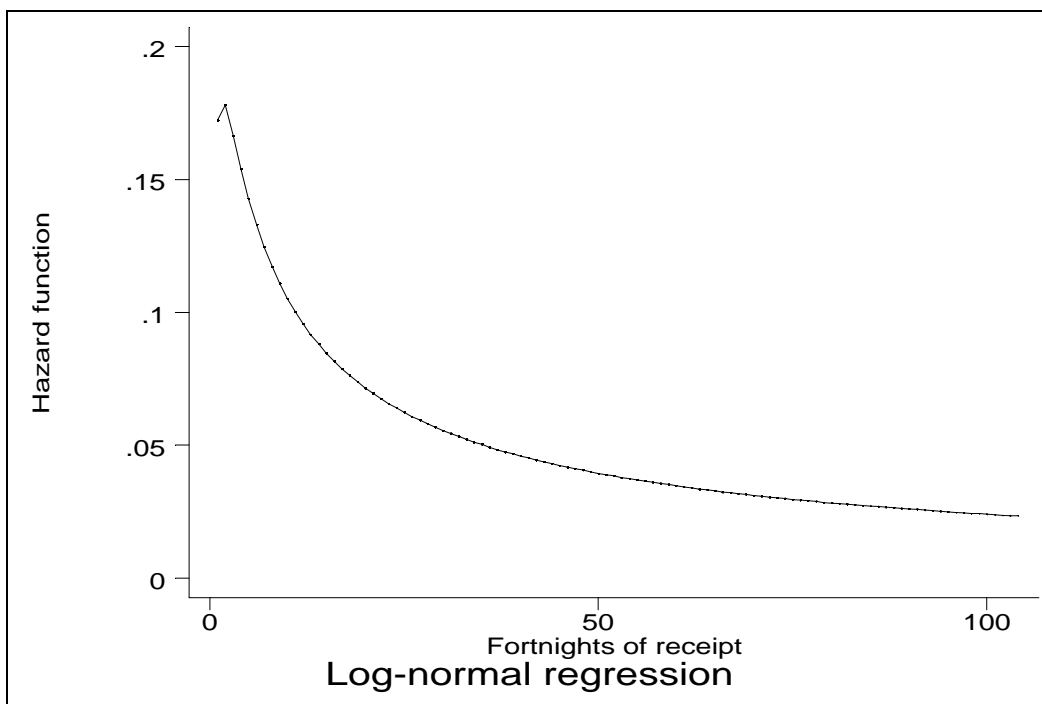
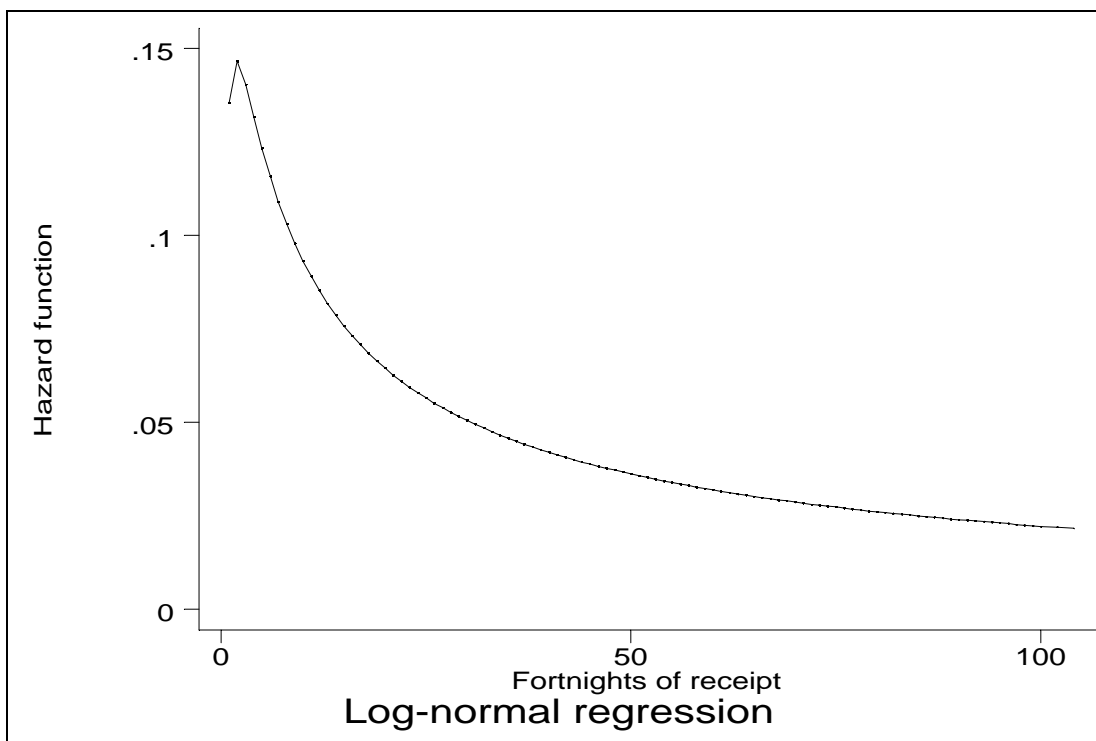


Figure 6.3 Estimated Hazard function: Unemployment payment to off income support - Men



Exit to Disability Payments

There were substantial differences in exit probabilities associated with age. Among women the probability of exit increased with age, with those most likely to move from

unemployment related payments to disability payments aged 55 or more. A similar relationship was observed for men, except those in their 60s were most likely to exit to disability payments. I did not differentiate between women aged in their late 50s and those in their early 60s because there were very few women in their early 60s receiving unemployment payments.

In terms of family responsibilities, men and women with partners were less likely to move on to disability payments than their single counterparts. The estimated hazard rate of men was unaffected by the number of children, but men whose youngest child was aged up to four were less likely to move onto disability payments than other men. In contrast the hazard rate of women was unaffected by the presence of children, both in terms of the number of children and the age of the youngest child.

Young Australian born women were more likely to exit than those born overseas and their older counterparts. Those who self-represented as ATSI were no more or less likely to exit.

In terms of financial situation, male home-owners were more likely to exit to disability related payments, regardless of age. Older female homeowners were more likely to exit to disability payments than their younger counterparts and those who did not own their own home. Unearned income, both in terms of receiving it and amount, was not significantly related to both men's and women's propensity to exit.

There was no relationship between working and women's propensity to exit. However, men who worked were less likely to exit. The proclivity to work may well be related to the likelihood of having a disability, or ease with which work can be found.

Whether the individual lived in the city or country had no effect. However, men living in the Northern Territory were least likely to exit, followed by West Australian men. Recall that these men were most likely to exit income support. This patterning suggests that there is some relationship between labour market conditions and movement from unemployment related payments to disability. In areas of high labour demand it is easier for partially disabled job seekers to find work and/or discouraged job seekers are more likely to resort to disability related payments. I observed no difference by state for women.

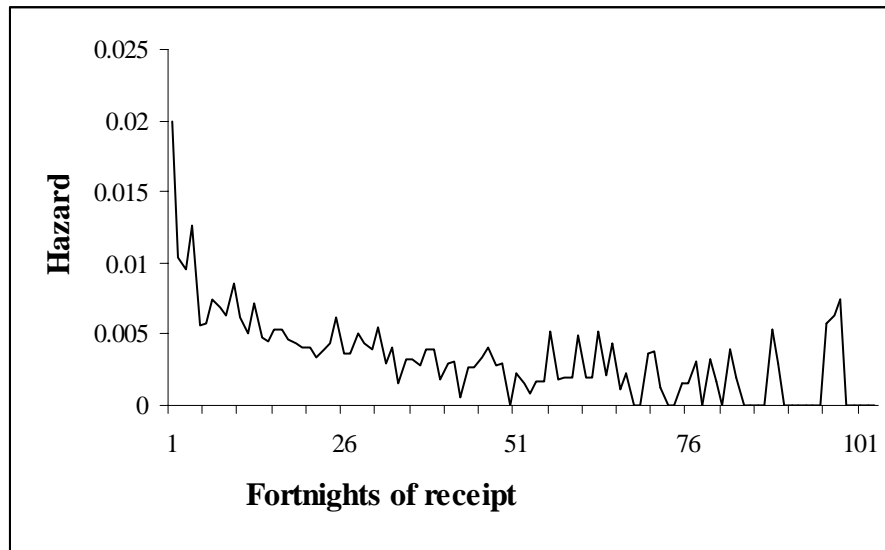
Men and women who had moved onto unemployment payments from another form of income support were more likely to exit to disability related income support.

The estimated hazard functions for women and men respectively are much the same size regardless of the length of the spell. Furthermore, the underlying hazard is very close to zero for both men and women. If there is a tendency for unemployed persons to move onto disability payments it appears not to be intensified by the length of time spent receiving unemployment payments.

6.5 Exiting from Disability Payments

Figure 6.4 shows that the shape of the Kaplan-Meier function for exit from disability payments to outside the income support system is quite similar to the one describing the corresponding exit from unemployment payments. However, the duration dependence appears to be less marked.

Figure 6.4 Kaplan-Meier hazard function: Disability payment to off income support



Tables 6.7 and 6.8 summarise the results of estimation of the empirical hazard rates for men and women respectively. I used the same set of individual characteristics as regressors as used in the previous section in this analysis. I also tried variables relating to the type of disability. These were recorded for part of the period under observation. Unfortunately, they had little explanatory power, perhaps because they were for only a limited period. The LDS also contains a variable describing the severity of the disability in terms of impairment rating. I chose not to use this variable on the grounds that impairment rating is an inadequate proxy for severity. For example, many customers have manifest ratings that do not lead to a severe impairment rating.

In comparison with the estimated coefficients with respect to exiting unemployment payments, few of the coefficients were significant. This was expected because the sample sizes were much smaller, than they were for the exit from unemployment payment analysis.

Table 6.7: Log-linear Hazard Regression Model of Duration of Disability Payment Receipt: Men

Characteristics	Means	Estimated coefficients with z-statistics in brackets
Age in years at end of spell		
< 30	14.3	-1.022 (-1.96)*
30-44	21.5	-1.097 (-2.07)*
45-49	10.1	-0.878 (-1.60)
50-54	12.5	-0.527 (-1.89)**
55-59	19.3	-0.214 (-0.94)
Australian Born	69.1	-0.140 (-0.63)
Identifies as ATSI	2.5	0.241 (0.29)
Married	51.3	0.377 (1.54)
Number of dependents#	0.25 (0.76)	0.083 (0.40)
Age of youngest dependent		
0-2	2.3	1.185 (1.41)
3-4	1.5	-0.625 (-0.86)
5-9	3.7	-0.854 (-1.52)
9-15	5.3	-0.241 (-0.52)
Home-owner	44.2	-0.418 (-1.59)
Earned income	6.4	1.641 (1.66)**
Value of earned income (\$)	27.6 (136.6)	-6.23E-03 (-2.28)*
Earned income squared (\$)		1.39E-06 (0.97)
Unearned income	42.6	0.175 (0.68)
Value of unearned income (\$)	41.2 (123.2)	-2.95E-03 (-1.82)*
Unearned income squared (\$)		1.26E-06 (0.72)
Lives in city	58.1	-0.008 (-0.04)
Northern Territory	0.9	-0.714 (-0.93)
NSW	33.3	0.745 (1.96)*
Victoria	22.1	0.733 (1.92)**
Queensland	19.7	0.761 (1.90)**
South Australia	8.6	0.845 (1.96)*
West Australia	8.0	0.377 (0.88)
Tasmania	3.2	1.375 (2.41)*
Continued from another payment	60.7	0.827 (4.04)*
Young*Australian born	37.4	0.076 (0.22)
Young*ATSI	1.7	-0.126 (-0.13)
Young*Married	14.2	0.440 (-1.10)
Young*homeowner	8.8	0.175 (0.45)
Young*unearned income	9.6	-0.522 (-1.38)
Young*value of unearned income	7.2 (58.7)	5.13E-04 (1.30)
Young*value of unearned income squared		-4.52E-06 (-0.93)
Young*earned income	3.9	1.216 (0.91)
Young*value of earned income	17.9 (108.5)	-2.35E-03 (-0.56)
Young*value of earned income squared		1.39E-08 (0.01)
Young*city	26.3	0.539 (1.81)**
ln_sig		0.864 (27.96)*
Sigma		2.374
Log likelihood		-1756.07
Number of spells	2339	
Number of spells ending in exit	503	

Notes: # dependents are aged 15 or less
** Significant at 10 per cent level
* Significant at 5 per cent level

Table 6.8: Log-linear Hazard Regression Model of Duration of Disability Payment Receipt: Women

Characteristics	Means	Estimated coefficients with z-statistics in brackets
Age in years at end of spell		
< 30	13.9	-0.101 (-0.11)
30-44	27.2	-1.101 (-1.24)
45-49	12.6	0.742 (0.79)
50-54	18.1	-0.955 (-1.55)
55-59	25.2	-0.378 (-0.63)
Australian Born	69.1	-0.109 (-0.31)
Identifies as ATSI	2.4	-2.498 (-2.65)*
Married	39.2	-0.101 (-0.28)
Number of dependents#	0.21 (0.67)	-0.077 (-0.23)
Age of youngest dependent		
0-2	2.0	-0.900 (-1.10)
3-4	1.2	-0.603 (-0.39)
5-9	2.5	-0.275 (-0.32)
9-15	6.3	-0.268 (-0.41)
Home-owner	42.3	-0.232 (-0.56)
Earned income	6.8	0.997 (0.81)
Value of earned income (\$)	24.3 (118.3)	6.08E-04 (0.01)
Earned income squared		-5.89E-06 (-1.60)
Unearned income	40.0	0.145 (0.33)
Value of unearned income (\$)	30.5 (90.8)	-4.62E-03 (-1.34)
Unearned income squared		4.69E-06 (0.92)
Lives in city	61.3	0.347 (0.99)
Northern Territory	0.7	-0.294 (-0.22)
NSW	31.6	0.416 (0.52)
Victoria	25.0	0.591 (0.74)
Queensland	18.1	0.407 (0.50)
South Australia	8.3	0.135 (0.16)
West Australia	10.2	0.555 (0.65)
Tasmania	3.9	1.576 (1.58)
Continued from another payment	63.4	1.344 (3.94)*
Young*Australian born	41.7	1.216 (2.42)*
Young*ATSI	1.7	3.146 (2.56)*
Young*Married	16.3	0.278 (0.50)
Young*homeowner	13.3	-0.575 (-0.99)
Young*unearned income	14.1	-0.725 (-1.23)
Young*value of unearned income	9.4 (52.6)	7.76E-03 (1.28)
Young*value unearned income squared		-1.07E-05 (-1.24)
Young*earned income	4.4	0.374 (0.20)
Young*value of earned income	15.5 (96.6)	-0.012 (-1.92)**
Young*value of earned income squared		1.24E-05 (2.56)
Young*city	33.0	-0.855 (-1.77)**
ln_sig		0.943 (19.75)
Sigma		2.569
Log likelihood		-760.77
Number of Spells	1318	
Number of spells ending in exit		

Notes: # dependents are aged 15 or less
 ** Significant at 10 per cent level
 * Significant at 5 per cent level

In terms of age, the hazard rate of leaving income support for male disability payment recipients was the highest for those aged 20 to 44. It decreased as age rose. The hazard rate of women exhibited much the same age pattern but the estimated coefficients were statistically insignificant.

In terms of family responsibilities, neither marriage, the number of children, nor the age of the youngest child, were statistically related with the hazard rate for men and women.

Country of birth and identification as an ATSI were unrelated to the male hazard rate. However, young Australian women were less likely to exit than their older counterparts and overseas born women in general. Older women who identified as ATSI were more likely to exit than their younger counterparts and other women. Their younger counterparts were slightly less likely to exit than other women were.

Homeownership was not significantly related to the men's or women's hazard functions. As the value of unearned income increased so too did the likelihood that men would exit, but there was no relationship for women.

Male disability payment recipients who worked were less likely to exit than other men were, if earned income was less than \$263 per fortnight. However, their propensity to exit increased with income. From \$263 per fortnight, men who worked were more likely to exit than non-working men were. There was no relationship between older women's employment and their exit rate. However, young women were more likely to exit if they worked and their propensity to exit increased with their earnings.

Young men living in cities were less likely to exit than men living in the country were and older men living in the city were. In terms of state/territory of residence, Tasmanian men were least likely to exit and residents of Northern Territory, Western Australia and the ACT the most likely. For women there are no clear relationships in terms of location, although the estimated coefficient for Tasmanian women was almost significant at the 10 per cent level, suggesting that Tasmanian women were the least likely to exit.

Those whose disability payment spell was a continuation from a spell of another form of income support payment, say unemployment payments, were less likely to exit than others, regardless of sex.

Figures 6.5 and 6.6 describe the estimated base-line hazard functions for women and men respectively. The propensity to exit decreases at a decreasing rate with the length of the spell, and the women's base-line rate was roughly half the size of men's.

Figure 6.5 Estimated hazard function: Disability payment to off income support - Women

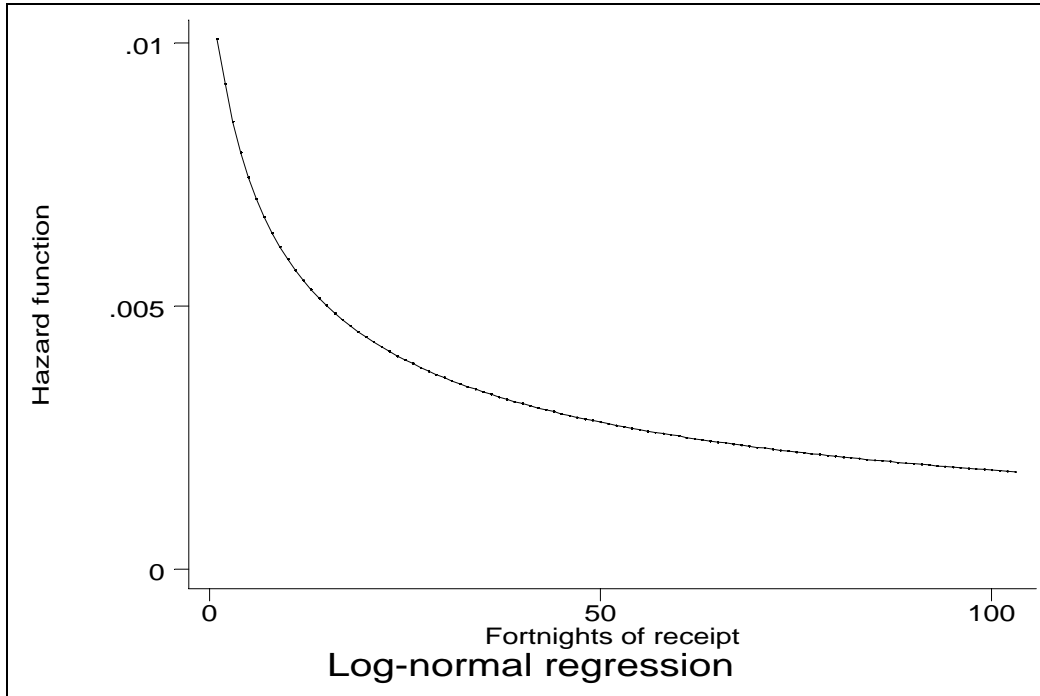
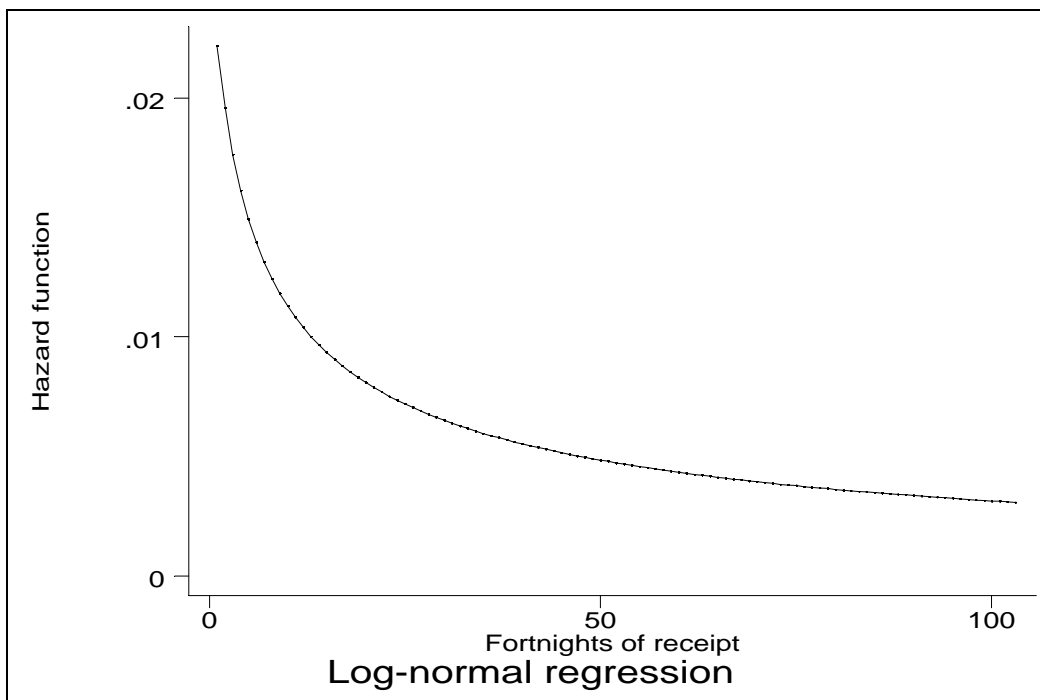


Figure 6.6 Estimated hazard function: Disability payment to off income support - Men



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