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Support Receipt in Australia

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Abstract

Using administrative records on Australian income support (welfare) recipients over the period July 1995 to June 2002, we examine dynamic properties of income support receipt and the personal characteristics associated with alternative patterns of receipt. We draw on three concepts: churning – the process of ending a spell on income support and subsequently commencing a new spell; transferring – moving from one payment-type to another within a spell on income support; and *Total proportion of Time On* income support (TTO) – the proportion of time on income support in a given period. We find that churning and transferring are significant features of income support receipt in Australia. For example, over half of recipients churn within five years of commencing an income support spell, and one-fifth make a payment transfer within the same time frame. Examination of the characteristics associated with each of five distinct patterns of receipt reveals substantial differences in patterns by age, family composition, unemployment status, health status, and recent history of income support receipt.

1. Introduction

The welfare system is an important institution in the Australian economy, with nearly 3 million persons of workforce age receiving income support (welfare) payments at any one point in time (FaCSIA 2006). This apparently high rate of receipt – approximately 22 per cent of workforce age persons – raises numerous questions about the extent, nature and determinants of reliance on income support in Australia. Important among these are questions concerning the nature and determinants of inter-temporal patterns of receipt: the length of spells on income support, frequency of spells on income support, movements between payment-types, and interactions between these quantities. In this study, we seek to investigate the nature of such dynamic properties of income support receipt and the factors that impact on these properties.

Our analysis is conceived in terms of three key concepts that collectively describe the pertinent aspects of patterns income support receipt: ‘churning’, ‘transferring’ and ‘total time on payments.’ Churning occurs when a person exits and then re-enters income support receipt, while transferring occurs when a person on income support moves from one payment-type to another. Measures based on the concepts of churning and transferring, when used in conjunction with ‘Total Time On’ payments (TTO) measures, can be used to uncover most of the dynamic features of income support receipt that are likely to be of policy interest.

The central premise of our study is that focus on only one dimension of individual income support receipt correspondingly provides only a partial, and possibly misleading, picture of the interactions of individuals with the welfare system. For example, it has long been understood that a focus on length of single spells on welfare leads to substantial underestimation of the total time typically spent on welfare by individuals who come into contact with the system, because many individuals experience multiple spells (e.g., Disney (1979) makes this point for unemployment benefit recipients in the UK, while more recently Gregory and Klug (2003) have raised this issue for sole parents in Australia). Conversely, a focus on only the total extent of reliance on income support over an interval of time will fail to uncover important aspects of the nature of receipt. For example, long spells followed by sustained exit have different policy implications to frequently recurring short spells, yet both patterns may give rise to the same aggregate level of reliance measured over a given interval. Understanding the prevalence and nature of movements between payment-types is also important to understanding individuals’ interactions with the income support system,

including whether movements are associated with increased or decreased likelihoods of exiting income support receipt.

Much of the previous research on welfare reliance, both in Australia and internationally, has focused on documenting the aggregate extent of reliance (e.g., Birrell et al 1997, Tseng and Wilkins 2003), explaining spell duration (e.g., Barrett 2002) or measuring state dependence in welfare receipt (e.g., Chay et. al. 1999, Gong 2004). While these approaches each have their merits, it is also the case that they do not provide information about a number of dynamic dimensions of welfare receipt, including which individuals move on and off welfare frequently and the paths welfare recipients take in terms of payment-types.

Several Australian studies do take an approach closer in spirit to the current study. These include Kumar and De Maio (2003), Gregory and Klug (2003) and Harris and Kalb (2005), all three of which use administrative data on income support recipients. Kumar and De Maio (2003) examine mature-age (50-60 years of age) income support recipients over the period 1995 to 2000. They describe durations and frequencies of spells, and then classify recipients into four groups according to their number of spells and average length of spells and investigate the characteristics associated with being in each group. Gregory and Klug (2003) examine female sole parents, describing patterns of income support receipt inclusive of receipt subsequent to exiting lone parent status. Their key question concerns the total length of time spent on all income support payments following commencement of a spell as a sole parent with dependent children. The study by Harris and Kalb (2005) focuses on the extent to which movement between payment-types is a feature of income support receipt, using payments administration data spanning the period 1995 to 2000.

The contribution of the current study to existing research stems from our examination of the entire working-age income support recipient population and our attempt to describe and explain, in an integrated manner, all key dimensions of income support receipt patterns. As the preceding discussion indicates, previous research has either focused on specific dimensions of income support receipt or has restricted study to recipients of specific payment-types. Our unified and general approach allows us to produce a more complete picture of patterns over time of income support receipt of individuals and the factors that impact on those patterns. Furthermore, we have available a significantly longer time frame – seven years – than any previous Australian research on this issue, which facilitates investigation of dynamic patterns of individual receipt over relatively long periods.

The specific components of the paper are as follows. Section 2 describes the data and the definitions of spells, churning and transferring employed. Section 3 examines the payment-type origins and destinations of churns and transfers. The incidence and intensity of churning and transferring behaviours are described in Section 4, which also explores the associations between churning and transferring behaviours and the degree of income support reliance. In Section 5, multinomial probit models are employed to investigate which individuals are most at risk of each of the key distinct patterns of income support receipt identified by our analysis.

2. Data and definitions of churning and transferring

2.1. Data

The data used comprise Centrelink payment administration records of a one per cent random sample of persons who received income support (welfare) payments at any stage during the period 24 June 1995 to 14 June 2002. For each individual in the sample, a payment record is available for every fortnight in which that individual received an income support payment in the period.¹ Information included with each payment record includes sex, date of birth, postcode of residence, partner status, number of dependent children, age of youngest dependent child, earnings, other non-welfare (unearned) income, partner income, payment-type, payment entitlement and, depending on the payment-type, potentially other information (such as ‘activity-type’ for unemployment benefit recipients). The data set notionally contains records for all income support payments, but prior to the creation of Centrelink in 1998, payments to full-time students (Austudy) were administered separately to other welfare payments, a consequence of which is that these payment records are missing from the data set prior to 1998. To be consistent across the entire sample period, we therefore exclude all full-time student payment records.

The population of interest for our study is persons aged 15-64 years who received income support payments in the sample period.² In contrast to the study by Tseng and Wilkins (2003),

¹ The data set was produced and is owned by the Australian Government Department of Families, Community Services and Indigenous Affairs. The earliest fortnightly payment records are dated 7 July 1995 and relate to payments for the fortnight up to and including that date. The last payment records are on 14 June 2002 and likewise relate to the fortnight up to and including that date. The data set used also contains payment records for the period 24 December 1994 to 23 June 1995, but we exclude this period from our analysis because of some concerns over the sampling process in the first half of 1995 – most notably, a large increase in the number of recipients commencing spells in the second fortnight of June.

² Further sample selection restrictions are imposed depending on the analysis.

we focus on individual receipt of income support rather than income unit (or family) receipt. This decision is necessitated by the data set, which does not allow identification of income support receipt of the income unit for all persons at all times.

Table 1 provides indicative information on the nature of the data, showing the number of spells in progress and commenced in each financial year of our sample period, and the number of individuals involved. Over the full period, 45,948 individuals commenced 81,936 income support spells, which translates to population estimates of 4.6 million individuals and 8.2 million income support spells. The estimates also imply that approximately 3.3 million individuals received income support at some stage of each year, while approximately 2.5 million individuals were on income support at any one point in time. In terms of changes over the sample period, spells commenced in each financial year declined up until 1998-99, and rose slightly over the next two years, before declining again in 2001-02. This pattern closely mirrors changes in the unemployment rate over the period (ABS 2006).

Table 1: Administrative data set – Number of spells and individuals in the sample

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	All years
<i>Spells</i>								
Commenced	13,882	12,124	11,796	10,779	11,249	11,347	10,759	81,936
Total	37,054	36,696	36,390	36,025	35,583	35,206	34,983	105,108
<i>Individuals</i>								
Commenced a spell	12,820	11,286	10,874	9,975	10,250	10,410	9,971	45,948
Total	33,943	33,924	33,669	33,523	32,910	32,758	32,741	61,105
Average number of spells in progress at one time	24,335	24,869	24,919	24,893	24,395	24,414	24,637	24,636

Notes: Sample comprises persons aged 15-64 years. Total spells in a period comprises commenced spells plus those in progress at the beginning of the period. Similarly, total individuals on income support in a period comprises individuals who commenced a spell in the period plus other individuals who were on income support at the beginning of the period. Average number of spells in progress at one time is the average over all fortnights in the period of the number of spells in progress in a single fortnight (which necessarily equals the average number of individuals on income support at one time).

2.2. Definition of income support spells, churning and transferring

We measure spell durations in fortnights, since a fortnight is the smallest unit of measurement of duration available in the administrative data. Spells are of course defined by periods of continuous income support receipt. However, rather than define an end to a spell by a payment break of one fortnight, we follow the definition provided in the *Social Security Act 1991 (SSA)* that is applicable to spells less than one year in duration. Under the SSA, in the

first twelve months of a spell, an end to the spell is deemed to occur only once an individual has been off payments for three consecutive fortnights.³ We impose this three-fortnight requirement to avoid spurious inferences on churning behaviour. Short periods off payments will often reflect administrative factors, such as failure of a recipient to lodge a claim form correctly or on time, rather than true movements off payments.

Churning is defined to occur in a given period if a person completes a spell on income support and subsequently commences a new income support spell within that period. The number of churns in the period is therefore equal to the number of spells minus one. Implicit in the notion of churning is the idea of failure to completely escape reliance on income support, suggesting there should perhaps also be an upper bound on the length of the break in income support payments. To give an extreme example, a person who goes off income support payments at age 15 and does not again receive income support until age 64 is unlikely to be considered a churner. However, we do not explicitly impose an upper bound on the payment break, since any instance of repeated spells within the timeframes we consider (which cannot exceed seven years) could be reasonably characterised as churning.

Transferring is defined to occur when a person moves from one payment-type to another, with no break in payments. This definition excludes movements between payment-types that involve churning – that is, where an individual completes an income support spell on one payment-type and subsequently commences another spell on a different payment-type. Churning and transferring therefore cannot occur simultaneously.

Transferring is only a meaningful concept to the extent that it reflects a change in the circumstances or behaviour of the recipient. This implies that not all changes in payment-type should be treated as transfers. For example, a change in payment-type deriving from a change to the name of the payment could not sensibly be regarded as a transfer. We therefore group together similar payment-types, with the emphasis being on similarities in eligibility criteria. We also group together some disparate payment-types with very small numbers of recipients. This results in eleven payment-types for the purposes of defining transferring, given by the Level-3 categories reported in Appendix Table 1. Thus, a transfer occurs if an individual

³ Section 38B of the SSA defines ‘notional continuous periods of receipt of income support payments’ as periods in which the maximum break in payments is six consecutive weeks in the first twelve months of continuous receipt and thirteen weeks thereafter. The date of spell end is the date of the last payment record prior to the payment break.

moves between these eleven categories, while a change in payment-type within one of the eleven categories is treated as continuation on the same payment-type.

For some of the analysis, we find it informative to characterise churning and transferring according to ‘activity test’ requirements of the pre- and post-transition payment-type. This essentially involves distinguishing unemployment benefits, which are subject to a requirement that recipients seek employment, from all other payment-types.⁴ A transition (churn or transfer) can involve a movement from an activity-tested to a non-activity-tested payment-type, a movement from a non-activity-tested to an activity-tested payment-type, or no change in activity test requirements. Motivating this characterisation of payment receipt is that it provides a measure of ‘engagement’ with the labour market, since only recipients on activity-tested payments are required, as a condition of payment, to be in the labour force. Thus, for example, we can make inferences on when transferring tends to be a stepping stone to moving off income support (movements from non-activity tested to activity tested payments), a movement towards more entrenched reliance on income support (movements from activity tested to non-activity tested payments), or neither (movements between non-activity-tested payments).

3. Payment-type composition of churns and transfers

Our first step in describing patterns of receipt is to characterise all churns and transfers observed in the sample period in terms of the payment-types involved. Table 2 presents the proportion of churns with each combination of pre-churn and post-churn payment-types. The pre-churn payment-type is that received immediately prior to exit from income support, while the post-churn payment-type is that first received on subsequent return to income support. This provides an indication of the extent to which individuals experience the same ‘problems’ post-churn (that lead to take-up of welfare) as were experienced pre-churn. This is a dimension of individuals’ interactions with the welfare system that is often ignored in the literature, or is analysed only for a specific group of individuals, such as in Gregory and Klug’s (2003) study of those (initially) on parenting payments.

⁴ The term ‘activity test’ refers to the wide variety of requirements imposed on unemployment benefit recipients, such as providing program administrators with evidence of job-search efforts, utilising Job Network services and participating in the ‘Work-for-the-Dole’ scheme. The specific requirements imposed vary from recipient to recipient and also vary over time for a given recipient. Temporary exemptions from the activity test are granted under certain circumstances, such as recipient illness or injury.

In total, 44,003 churns by persons aged 15-64 years at the completion of the churn can be identified in the sample from July 1995 to June 2002, implying 4.4 million churns for the population in this age range in this period. The diagonal in bold indicates that over 85% of churns involve a return to the same payment-type as received prior to the churn. Unemployment benefits are clearly the dominant payment-type for churners, accounting for 75% of pre-churn payment-types and 72% of post-churn payment-types. Parenting Payment Partnered (PPP) and Parenting Payment Single (PPS) are also involved in a sizeable proportion of churns, constituting the pre-churn and/or post-churn payment-type in 20% of churns.

Table 2: Pre- and post-churning payment-types – Proportion of churns with each pre- and post-churn payment-type combination (%)

	<i>Post-churn payment-type</i>							Total
	UB	OS	PPP	PPS	DSP	OL	AP	
<i>Pre-churn payment-type</i>								
Unemployment benefits (UB)	68.30	3.26	1.40	0.96	0.30	0.56	0.06	74.84
Other short-term payments (OS)	1.78	1.05	0.13	0.10	0.12	0.05	0.01	3.24
Parenting Payment Partnered (PPP)	0.82	0.09	7.28	1.62	0.07	0.16	0.00	10.04
Parenting Payment Single (PPS)	0.77	0.18	1.07	4.89	0.03	0.04	0.00	6.99
Disability Support Pension (DSP)	0.11	0.09	0.00	0.02	1.59	0.03	0.02	1.86
Other long-term payments (OL)	0.48	0.05	0.05	0.03	0.09	1.74	0.23	2.67
Age Pension (AP)	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.35
Total	72.27	4.72	9.94	7.62	2.19	2.59	0.67	100.00

Notes: A churn is defined to occur if an individual is observed to exit and subsequently re-enter income support receipt at any stage during the period July 1995 to June 2002. Only individuals aged less than 65 years at the completion of the churn are included in the sample. Number of observations (churns) is 44,003.

Churns originating in an activity-tested payment are given by the first row of Table 2, while churns ending in an activity-tested payment are given by the first column. Taking this perspective, 68% of churns involve receipt of an activity-tested payment pre- and post-churn. It can further be ascertained that 6% of churns involve a movement from an activity-tested payment to a non-tested payment and 4% involve a movement in the reverse direction. The remaining 22% of churns involve only non-activity-tested payments.

Panel A of Table 3 presents for transfers information of the same nature as Table 2.⁵ In total, 20,963 transfers by persons aged 15-64 years can be identified in the sample from July 1995 and to June 2002, implying there were 2.1 million transfers for the population in this age

⁵ Some elements of the diagonal in bold are non-zero because the seven categories identified in the table are an aggregation of the eleven payment-type categories distinguished for the purposes of ascertaining transfers. Specifically, OS and MAP contain more than one payment-type.

range in this period. Transfers are more evenly distributed across payment-types than are churns, both in terms of origin and destination. The unemployment benefit is nonetheless still the most common origin payment-type, applying to 35% of transfers. PPS is the origin payment-type for 17% of transfers, while PPP, ‘mature-age payments’ and ‘other short-term payments’ each account for approximately 14-15% of the payment-type origins of transfers. As would be expected, almost no transfers are from the age pension, and there are also very few transfers from the Disability Support Pension (DSP). In terms of destinations of transfers, aside from ‘other short-term payments’, each of the payment-types is the destination for a sizeable proportion of transfers.⁶ Significantly, only 18 per cent of transfers are to unemployment benefits, the only activity-tested payment-type. Since 35 per cent of transfers are *from* unemployment benefits, we can infer that transferring more often represents a move away from engagement with labour market than towards it.

Table 3: Payment-types involved in transfers and inferred reasons for transfers

<i>Pre-transfer payment-type</i>	<i>Post-transfer payment-type</i>							Total
	UB	OS	PPP	PPS	DSP	OL	AP	
Unemployment benefits (UB)	0.00	2.90	5.00	7.02	11.81	8.31	0.19	35.23
Other short-term payments (OS)	7.79	0.15	0.73	2.04	2.81	0.31	0.03	13.87
Parenting Payment Partnered (PPP)	2.51	0.23	0.00	10.53	0.37	1.20	0.00	14.85
Parenting Payment Single (PPS)	6.11	0.82	9.38	0.00	0.48	0.46	0.03	17.28
Disability Support Pension (DSP)	0.52	0.33	0.02	0.06	0.00	0.10	2.83	3.88
Other long-term payments (OL)	1.48	0.13	0.29	0.54	1.53	2.85	7.97	14.80
Age Pension (AP)	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09
Total	18.42	4.56	15.43	20.19	17.01	13.33	11.06	100

<i>B. Inferred reason for transfer, by type of transfer (%)</i>	Activity-tested to non-activity-tested	Non-activity-tested to activity-tested	Between non-activity-tested	All transfers
<i>Number of transfers</i>	7,386	3,861	9,716	20,963
Age related	13.2	0.0	23.5	15.5
Disability related	33.5	2.9	12.4	18.1
Family dynamics				
Children presence only	15.5	24.2	3.5	11.5
Partner presence only	2.7	6.0	42.9	22.0
Children and partner presence	4.1	4.7	3.8	4.1
Other factors	30.9	62.2	14.0	28.8
Total	100	100	100	100

Notes: Sample comprises all transfers in the period July 1995 to June 2002 by persons aged less than 65 years at the time of the transfer. Number of observations (transfers) is 20,963.

⁶ Our age restriction means that transfers to the age pension are exclusively by females, suggesting this destination is quite important for females in this age range.

Examination of the individual cells for payment-type transitions reveals a comparatively small number of key payment-type transitions. The single-most common transition is from unemployment benefits to DSP, accounting for 12 per cent of all transfers. However, transfers between PPS and PPP are even more common when both directions of transfer are taken into account, with approximately 20 per cent of transfers being between the two payments. Other relatively popular transfer routes are from unemployment benefits to ‘mature-age payments’, PPS and PPP, from ‘mature-age payments’ to the age pension, from ‘other short-term payments’ to unemployment benefits and from PPS to unemployment benefits.

Payment-types are defined by their eligibility criteria, which mostly consist of specifications of age, health, caring responsibilities and/or family type requirements. Correspondingly, many payment transfers will be the result of changes in individuals’ age, health, caring responsibilities or family situation. It is possible to use the differences in the eligibility criteria, along with observed changes in the characteristics of recipients at the time of transfer, to ascertain the reasons for many of the payment transfers. This is attempted in Panel B of Table 3, which presents the proportion of transfers that can be attributed to each of six categories of transfer reasons. Information is presented for all transfers and by type of transfer classified according to activity-test requirements pre- and post-transfer.

Age-related transfers comprise all transfers to the age pension and transfers from unemployment benefits to Mature Age Allowance. Disability-related transfers comprise all transfers to DSP and all transfers from DSP other than those to the age pension. A change in the presence of dependent children is defined to be a movement from no dependent children to at least one dependent child, or vice versa. Partner status changes if administrative records indicate such a change. All transfers that are accompanied by a change in the presence of dependent children or partner status and that are not already classified as age- or disability-related are attributed to family changes. To allow for administrative lags in processing payment-type changes or updating family changes, we define a transfer to be the result of a family change if the change occurs within a two-fortnight band around the fortnight in which the transfer occurred. Transfers attributed to ‘other factors’ comprise transfers that cannot be attributed to one of the other changes in circumstances. It is likely that many of these transfers will in fact be due to changes in age, disability or family status.

The last column of Panel B of Table 3 indicates that 16% of transfers can be attributed to ageing, 18% can be attributed to changes in disability-related work capacity and 38% can be attributed to changes in family composition. The cause cannot be inferred for the remaining

29% of transfers. Disaggregation by type of transfer in terms of movements between activity-tested and non-activity-tested payments shows, as might be expected, that ageing and disability-related changes account for very few of the transfers to activity-tested payments. By contrast, such changes observably account for over one-third of transfers between non-tested payments and nearly half of transfers from activity-tested to non-activity-tested payments.

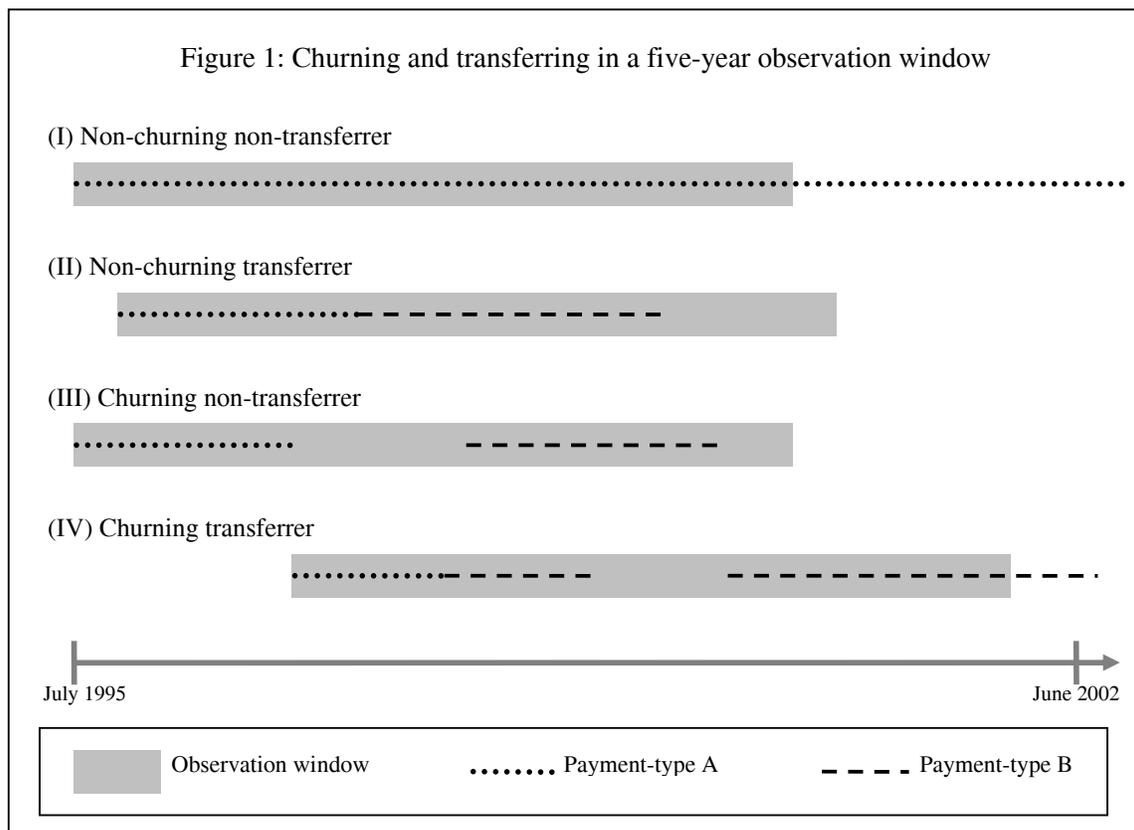
Changes in family composition account for significant proportions of all three types of transfers, but are particularly important in precipitating transfers between non-activity-tested payments, observably accounting for half of these transfers. Also notable is that most of the transfers between activity-tested and non-activity-tested payments associated with family changes involve only a change in the presence of children, whereas most of the transfers between non-activity-tested payment-types involve only a change in the presence of a partner. Analysis by sex (not reported) shows this primarily reflects outcomes for females, with the presence of dependent children determining whether unemployment benefits or parenting payments are received, while partner status determining, for females with dependent children, whether PPS or PPP applies (neither of which is activity tested).

4. Churning and transferring patterns

4.1. Measures of Churning and Transferring

To describe churning and transferring patterns, measures are constructed for each income support recipient by identifying the date of commencement of the first income support spell in the period being examined, and counting the number of churns/transfers in the t fortnights following that date. The ‘observation window’ t is held constant across persons in the sample in order to produce measures of churning and transferring that are consistent across persons. Measures are produced for three lengths of observation window: one year ($t = 26$), three years ($t = 78$) and five years ($t = 130$). The one-year window produces measures of short-term dynamic properties of income support receipt, the three-year window produces intermediate-term measures, and the five-year window produces longer-term measures. Although patterns of income support over longer time-frames than five years are conceivably of interest, the seven-year span of the LDS data is a constraint in this regard. Even with the five-year window, only persons whose first spell commenced prior to June 1997 can be examined.

For each of the three window lengths, we examine both the incidence and level of churning and transferring – that is, whether an individual churns/transfers, and the number of times an individual churns/transfers. We also examine interactions between churning and transferring by identifying the incidence of four patterns: neither churns nor transfers (‘non-churning non-transferrer’); does not churn but does transfer (‘non-churning transferrer’); churns but does not transfer (‘churning non-transferrer’); and both churns and transfers (‘churning transferrer’). Figure 1 presents a stylised depiction of the four groups for a five-year observation window. Observation windows are depicted by shaded boxes, while periods on income support are defined by horizontal lines, with different dash styles representing different payment-types.



An issue that arises in the analysis of dynamic properties of income support receipt is the appropriate definition of an ‘observation’. In essence, the issue is whether to use the individual or the spell as the unit of analysis. For the analysis undertaken by financial year, we choose the individual as the unit of analysis, examining income support receipt in the t fortnights following commencement of the individual’s first spell in the year. However, for the analysis of the entire sample period at once, problems arise with this approach – namely, observations towards the end of the sample period are obtained only for individuals with no recent income support payment history. This will tend to bias the sample towards relatively

over-representing persons with no payment history. On the other hand, if a separate observation is generated for each spell commencement, excessive weight will be given to churners. Trading off these sources of bias, we therefore adopt a compromise approach whereby a separate observation is generated for an individual in each financial year that a spell is commenced. Consequently, the number of observations for each individual is equal to the number of financial years in the period that he or she commenced a spell on income support. An advantage of this approach is that the rule for generating an observation is the same for pooled analysis of multiple years as that used for analysis by financial year, making estimates readily comparable irrespective of length of the period being examined.

4.2. Incidence and frequency of churning and transferring

Table 4 presents, by financial year of spell commencement, descriptive information on the incidence and level of churning within each of the three observation windows. The upper panel gives the incidence of churning, equal to the proportion of individuals in the sample observed to churn within the observation window. For example, among those who commenced a spell in 1995-96, 18% churned within one year of first spell commencement, 45% churned within three years and 56% churned within five years.

Clearly, churning is an important feature of income support receipt in Australia. Over half those commencing a spell on income support exit and then re-enter income support receipt at least once within five years of commencement. As might be expected, the incidence of churning is monotonically increasing in the observation window, although not at a constant rate. There are indications that the incidence of churning has increased slightly towards the end of the sample period. For each of the three financial years to June 2001, the proportion churning within one year of spell commencement was over 19%, compared with less than 18% for each of the three years to June 1998. This may derive from improvements in labour market conditions over the period.

The lower panels of Table 4 examine the distribution of churning among churners, presenting the proportions churning once, twice and three or more times in each observation window. Repeated churning within a year of spell commencement is rare. Within three years of spell commencement, slightly more than one-third of those who churned do so more than once, and within five years, approximately half churn more than once. Nonetheless, it would seem that repeated cycling off and on income support payments is not the typical pattern of income support receipt over the medium term. Even adopting a five-year observation window, less

than one-quarter of churners, corresponding to approximately 12.5% of all persons who commence an income support spell, churn three or more times. More common is to never churn or churn only once, which applies to 72% of sample members in a five-year observation window, and 84% of sample members in a three-year window.

Table 4: Distribution of churning

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	
<i>No. of observations</i> *	12,820	11,286	10,874	9,975	10,250	10,410	
Churning incidence (%)							
<i>T</i> = 1	17.6	17.7	17.8	19.4	19.1	19.5	
<i>T</i> = 3	45.1	43.9	44.4	46.2			
<i>T</i> = 5	56.2	56.0					
Proportion (%) of churners who churn:							
<i>T</i> = 1	Once	93.6	93.0	92.6	92.7	92.0	91.8
	Twice	6.3	6.8	7.3	7.1	7.7	7.8
	Three or more times	0.1	0.2	0.1	0.2	0.3	0.4
<i>T</i> = 3	Once	65.1	64.2	64.3	62.2		
	Twice	25.6	25.4	24.8	26.1		
	Three or more times	9.3	10.4	10.9	11.7		
<i>T</i> = 5	Once	50.4	49.1				
	Twice	27.9	27.8				
	Three or more times	21.8	23.1				

Notes: *T* is the length of the observation window in years. * The total sample for each financial year comprises persons who commenced a spell on income support in the financial year and were aged 15-64 years at spell commencement. The applicable sample for each cell is the subset of this sample who were aged 15-64 years for the entire observation window indicated by the row heading.

Table 5 examines the transferring distribution, showing that transferring occurs significantly less frequently than churning. Fewer than 10% of individuals who commence a spell transfer between payment-types within one year of spell commencement, while just over 20% transfer within five years of spell commencement. Although fewer income support recipients transfer than churn, the proportion of recipients who transfer is nonetheless sizeable. As with churning, those who transfer do not do it often. Only 11% of transferrers, or about 2% of persons who commence a spell on income support, transfer three or more times within five years of commencing a spell. No dramatic changes in transferring patterns are evident over the sample period. There are, however, indications of a slight increase in the incidence of transfers in the last few years of the sample period, with the incidence of one-year-window transfers increasing from 7.8% in 1998-99 to 9.7% in 2000-01.

Table 5: Distribution of transferring

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	
<i>No. of observations*</i>	12,820	11,286	10,874	9,975	10,250	10,410	
Transferring incidence (%)							
<i>T</i> = 1	8.3	7.6	7.5	7.8	9.4	9.7	
<i>T</i> = 3	15.6	14.5	14.8	16.3			
<i>T</i> = 5	20.7	20.7					
Proportion (%) of transferers who transfer:							
<i>T</i> = 1	Once	86.7	89.6	90.0	90.0	88.1	87.0
	Twice	11.2	9.6	6.8	7.4	9.7	10.5
	Three or more times	2.1	0.8	3.2	2.6	2.2	2.5
<i>T</i> = 3	Once	74.5	77.9	76.9	75.3		
	Twice	18.2	15.4	15.8	16.7		
	Three or more times	7.3	6.7	7.3	8.0		
<i>T</i> = 5	Once	69.2	71.4				
	Twice	19.6	17.9				
	Three or more times	11.2	10.7				

Notes: *T* is the length of the observation window in years. * The total sample for each financial year comprises persons who commenced a spell on income support in the financial year and were aged 15-64 years at spell commencement. The applicable sample for each cell is the subset of this sample who were aged 15-64 years for the entire observation window indicated by the row heading.

For the remaining analysis of churning and transferring we focus on patterns of receipt in a three-year observation window. Tables 4 and 5 indicate that the three-year window appears to capture much of the churning and transferring, there being a relatively small increase in the incidence of churning and transferring in moving from the three-year to the five-year window. At the same time, the three-year time-frame facilitates inclusion of churning and transferring following on from spells commencing as late as June 1999, compared with a restriction to spells commencing prior to July 1997 for the five-year time frame.

Table 6 examines the joint distribution of the incidence of churning and transferring within the three-year observation window. It presents, by financial year, the proportion of individuals experiencing each of four possible patterns: neither churn nor transfer; transfer only; churn only; and both churn and transfer. In all four financial years examined, approximately 45% do not churn or transfer within three years of spell commencement, while approximately 38% churn but do not transfer. Reflecting the relatively low frequency of transferring compared with churning, less than 10% transfer only. The smallest group is the churning-transferring group, which accounts for approximately 6% of individuals commencing a spell in 1995-96, 1996-97 and 1997-98, and 7.6% of individuals commencing a spell in 1998-99.

Table 6: Joint distribution of the incidence of churning and transferring (%)

	1995-96	1996-97	1997-98	1998-99
<i>No. of observations</i>	12,600	11,106	10,684	9,788
Neither churn nor transfer	45.4	47.2	46.6	45.2
Transfer only	9.5	8.9	8.9	8.7
Churn only	39.1	38.3	38.6	38.6
Churn & transfer	6.1	5.6	5.9	7.6
Total	100	100	100	100

Notes: The observation window is three years. The sample in each column comprises persons who commenced a spell on income support in the financial year and were aged 15-64 years for the entire observation window.

4.3. Relationship between churning and transferring and length of time on income support

A key question for understanding the dynamic properties of income support receipt is the relationship between spell and payment-type transitions and the extent of reliance on income support. We measure the extent of reliance using the ‘Total proportion of Time On income support payments’ (TTO) measure (Gottschalk and Moffitt 1994), calculated as the number of fortnights on income support divided by the total number of fortnights in the period. In examining associations between reliance and churning and transferring patterns, we restrict attention to the relationships between TTO and the *occurrence* (as opposed to *levels*) of churning and transferring.

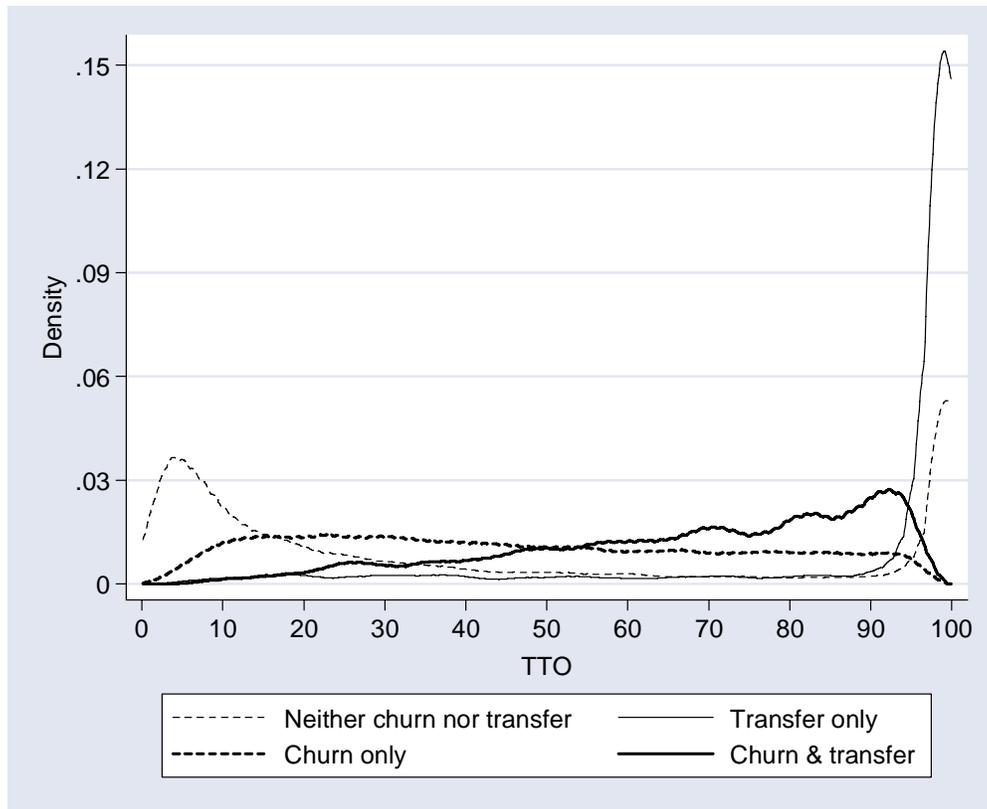
Figure 2 presents graphs of the density of the TTO distribution for each of the four groups defined in Table 6.⁷ Those who transfer and do not churn have only one spell on income support in the three-year window. In principle, this single spell could be any length, but Figure 2 shows that for almost all persons the spell is the entire three-year period. Thus, transferring appears to be associated with entrenched long-term income support receipt, at least when it does not also involve churning. The TTO distribution for those who churn but do not transfer appears approximately uniform up to a TTO of roughly 95%, although the density does decline very gradually over the 30-95% TTO range. Churning is therefore not associated with any particular level of reliance on income support since, given churning-only, most TTO-levels are approximately equally likely.

The TTO distribution for those who both churn and transfer appears to reflect the combined influences of the churn and transfer components as measured by the TTO distributions for the churn-only and transfer-only groups. Those who both churn and transfer are distributed across

⁷ We use an Epanechnikov kernel function with a bandwidth of 1.5%, and evaluate the density at 2,000 TTO levels.

a fairly large part of the TTO spectrum, but are mostly concentrated in the region where TTO is greater than 50%. Those who neither churn nor transfer have either a very short spell or a very long spell, indicated by the bimodality of the density of the TTO distribution. This group can therefore be characterised as comprising two distinct subgroups: those who on a single occasion temporarily depend on income support, and those who are on income support on a long-term basis (of at least three years).

Figure 2: Distribution of TTO by churning and transferring status



Patterns of receipt are likely to be strongly associated with payment-type, given the differences in recipient circumstances that different payment-types embody. We therefore in Table 7 examine churning and transferring patterns by initial payment-type. Panel A presents a version of Table 6 disaggregated by initial payment-type, further augmented by distinguishing high-TTO ($\geq 50\%$) single spells from low-TTO ($<50\%$) single spells.⁸ The last column shows that the unemployment benefit is the dominant initial payment-type, with

⁸ As Figure 2 demonstrates, using an arbitrary cut-point of 50% has no practical significance, since most single-spell recipients have a TTO close to either 0 or 100%.

70% of observations starting on this one payment-type. This is despite the fact that most payment recipients are not on unemployment benefits, and derives from its relatively short-term nature, and indeed the high rate of churning for recipients of this payment-type.

Table 7: Patterns of receipt by initial payment-type

	Single short spell	Single long spell	Transfer only	Churn only	Churn & transfer	Total	<i>No. of obs.</i>
<i>A. Proportion in each category (%)</i>							
Unemployment Benefits	31.3	12.0	7.0	44.2	5.4	100	30,793
Other short-term Allowances	27.8	1.7	27.6	25.3	17.6	100	2,186
Parenting Payment Partnered	29.0	22.3	10.1	32.0	6.7	100	5,187
Parenting Payment Single	18.0	36.4	10.1	26.4	9.3	100	2,944
Disability Support Pension	10.9	68.0	4.3	14.9	1.9	100	1,116
Other long-term payments	16.6	39.1	22.2	17.7	4.3	100	1,569
Age Pension	3.1	87.5	0.0	9.1	0.3	100	383
All payment-types	28.7	17.4	9.0	38.7	6.2	100	44,178
<i>B. Mean TTO (%)</i>							
Unemployment Benefits	14.3	88.0	92.4	45.5	67.7	45.3	30,793
Other short-term Allowances	8.3	74.7	80.3	37.1	61.9	46.1	2,186
Parenting Payment Partnered	16.2	89.0	88.2	50.4	68.6	54.2	5,187
Parenting Payment Single	18.6	94.1	87.8	55.1	70.1	67.4	2,944
Disability Support Pension	19.8	98.5	98.1	70.1	70.9	85.2	1,116
Other long-term payments	19.3	95.6	95.3	64.3	74.7	76.4	1,569
Age Pension	26.2	99.0	.	77.7	92.3	94.8	383
All payment-types	14.6	91.1	90.0	46.8	67.5	50.4	44,178

Note: The observation window is three years. An observation comprises the 3-year period following an individual's first spell commencement in each financial year over the period 1995-96 to 1998-99. An individual must be aged 15-64 years for the entire observation window to enter the sample.

Significant differences in patterns of receipt by initial payment-type are evident, implying patterns to some extent reflect the payment-types of recipients. A single short spell is relatively common for those who commence on unemployment benefits, other short-term payments and PPP, while a single long spell is the dominant pattern of receipt for pensions. A single long spell is also relatively common for persons who commence on other long-term payments or PPS.

Unemployment benefits have the highest incidence of churning of all the payment-types. Since the unemployment benefit is the initial payment-type for 70% of observations, churning is predominately associated with unemployment benefit receipt. Nonetheless, the incidence of churning is relatively high for persons who commence on PPP or PPS. The incidence of transferring – whether accompanied by churning or not – is high for ‘other short-term payments’, possibly due to the interim nature of many of these payments. The incidence of transferring is also relatively high for ‘other long-term payments’, although in contrast to ‘other short-term payments’, it is rarely combined with churning.

Panel B of Table 7 examines how the relationship between churning and transferring behaviour and TTO varies across payment-types. It presents the mean TTO for each churning-transferring group by initial payment-type. The overriding impression is that mean TTOs are reasonably similar across payment-types for each group (which, to some extent, is true by construction for the two single-spell, single-payment-type groups). It therefore seems that differences in the extent of reliance associated with each initial payment-type primarily derive from differences in churning and transferring patterns across the payment-types. There are, however, some differences across payment-types. Persons who commence on unemployment benefits or other short-term payments generally having the lowest mean TTOs, and persons who commence on pensions generally have the highest. A notable exception is that the mean TTO for transferrers who commence on unemployment benefits is comparatively high, which likely reflects the relatively high proportion for whom the transfer is to DSP (Table 3).

5. Characteristics of churners and transferrers

5.1. Modelling strategy

Characteristics associated with different patterns of income support receipt are investigated using information on recipient characteristics available in the administrative data set. The focus is on identifying *whether* an individual churns and/or transfers, rather than the level of churning and/or transferring, since Tables 4 and 5 showed little variation in the extent of churning among churners and transferring among transferrers. However, low-TTO single spells are distinguished from high-TTO single spells, on the basis of evidence in Section 3 that these are distinct patterns of income support receipt. Specifically, the first pattern corresponds to short-term ‘non-recidivist’ receipt, while the latter pattern corresponds to long-term receipt.

Models are therefore estimated of the determinants of the five outcomes distinguished in Table 7, which classifies observations according to patterns of receipt within a three-year observation window. Since this dependent variable has five distinct values with no natural ordering, multinomial probit models are employed. As per the descriptive analysis undertaken in Section 3, an individual must be under 65 years of age for the entire observation window to enter the estimation sample, and a separate observation is generated for an individual for each financial year in which the individual commenced an income support spell. Note that the restriction to persons observed to commence a spell on income support means that all

inferences on characteristics associated with alternative patterns of receipt are conditional on commencement of an income support spell. Thus, for example, the model does not identify the characteristics associated with entering income support receipt in the first place.

Explanatory variables are included for age, indigenous status, country of birth, family status, labour market earnings, other non-welfare income, state of residence, housing circumstances, nature of payment-type received and recent history of churning and transferring.⁹ Most variables are defined with respect to their values at or prior to commencement of the observation window, on the principle that factors used to explain churning and transferring behaviour should generally pre-date the behaviour. For example, it is not reasonable to attribute explanatory power for a payment-type transfer to a change in partner status that occurs after the transfer. The only exceptions to this principle are for the variables for earnings and other personal non-welfare (unearned) income. For each of earned and unearned income, two continuous variables are employed: average income in each fortnight on income support that the individual had positive income (expressed in units of one hundred dollars); and the proportion of fortnights on income support in which the individual had positive income.

The variables for nature of payment-type received at the beginning of the observation window comprise a set of dummy variables for inferred characteristics of individuals that are not directly observed in the data. Specifically, based on initial payment-type and activity-type, individuals are identified as either ‘incapacitated’, ‘unemployed’ or ‘neither’ at commencement of the observation window. An individual is defined to be incapacitated if the individual is on DSP, is on Sickness Allowance, or is on unemployment benefits but is exempted from ‘activity-test’ requirements because of illness or injury. An individual is defined to be unemployed if in receipt of unemployment benefits and not exempt from activity-test requirements. Note that, in taking this approach, we do not explicitly distinguish between most payment-types. This is because payment-types within the aggregated ‘neither’ category either do not clearly correspond to particular individual characteristics, or they correspond to characteristics that are already captured by other included explanatory variables (as, for example, is the case for PPS and PPP with respect to family status variables).

⁹ Means of the explanatory variables, by financial year and sex, are presented in Appendix Table 2.

The impact of recent churning and transferring history is investigated by inclusion of variables for outcomes experienced in the two years immediately preceding the observation window. Our prior expectation is that past churning and transferring behaviour is likely to be a predictor of current behaviour. Inclusion of these variables is also motivated by the fact that they are likely to control for a significant proportion of unobserved heterogeneity (see, for example, Le and Miller 2001 and Moffitt 2001 for evidence of the effectiveness of such ‘history’ variables in controlling for unobserved heterogeneity). Six dummy variables are used, corresponding to the five outcomes modelled for the observation window, plus a sixth category for those who did not receive income support at all in the two years leading up to commencement of the observation window (an outcome which is of course not possible for the observation window itself). Although individuals in the sixth category might be considered similar to the ‘neither, low TTO’ group, we consider non-receipt of income support a distinct outcome.

Our requirement of two years payment history, in conjunction with the three-year observation window, restricts the sample examined to persons commencing a spell in the period July 1997 to June 1999 (inclusive). The number of observations is therefore equal to the number of individuals who commenced a spell in 1997-98 plus the number of individuals who commenced a spell in 1998-99.¹⁰ Models are estimated separately for males and females to allow for the possibility that the determinants of behaviour differ between the sexes.

5.2. Results

Table 8 presents marginal effects of characteristics on the predicted probability of being in each outcome category, evaluated at mean values of characteristics. While the effects for a given explanatory variable sum to zero across all of the outcomes, estimates are reported for all five outcomes for the purposes of statistical inference. The factors with largest apparent implications for patterns of receipt are age, initial unemployment status, initial work incapacity, and recent history of patterns of receipt. Family circumstances are also associated with sizeable effects on patterns of receipt, more so for females than males.

¹⁰ Since an individual may contribute up to two observations, standard errors are adjusted by treating each individual as a cluster. Only 2,366 individuals in the sample commenced income support spells in both the 1997-98 and 1998-99 financial years, motivating our decision to treat each individual as a cluster rather than estimate a fixed or random (individual) effects model. Models were also estimated separately by financial year to examine whether there are significant differences in individuals’ churning and transferring behaviour between the two years. Estimates were found to be very similar.

Age effects will reflect differences in the nature of payment receipt by age due to lifecycle factors and also due to differences across birth cohorts. For males, the probability of churning-only is decreasing in age and the probability of transferring-only is increasing in age. The probability of a single short spell is also decreasing in age, with the exception that males aged 15-19 years at commencement of the three-year window have a similar probability of a single short spell as 35-44 year-old males (and are therefore less likely to have single short spells than 20-34 year old males). Generally lower probabilities of single short spells and multiple spells for older males are matched by higher probabilities of single long spells and transferring. Given the evidence in Figure 2 that transferrers tend to have long income support spells, it is clear that single long spells are strongly associated with older age. Conversely, younger males are more likely to experience short spells, albeit in many cases multiple spells, particularly for males aged 15-19 years at commencement of the three-year window. This finding is not surprising given the comparative stage of the lifecycle of young males. For example, incentives to take lower-paying jobs will be greater for younger workers, since such jobs may increase future earnings through on-the-job training or learning.

For females (Table 8b), age effects are not as strong as are evident for males, but patterns are broadly similar. The smaller differences by age may be partially explained by a greater likelihood of child-rearing responsibilities, which applies across a fairly wide range of ages.

Estimates for the variable identifying individuals who were unemployed at commencement of the observation window show unemployment to be associated with higher probabilities of both single short spells and churning. That (initial) unemployment is associated with short spells – albeit in many cases multiple short spells – is unsurprising given that most individuals in this category will be actively seeking to exit income support receipt via gaining employment. Indeed, the activity-test *requires* unemployment benefit recipients to actively seek employment in order to maintain payment eligibility.

With regards to our measure of incapacity, it is perhaps to be expected that classification as incapacitated at commencement of the observation window would be associated with longer-term income support receipt. Broadly speaking, the estimates are consistent with this prior expectation, although the effect manifests in somewhat different ways for males compared with females. For males, incapacity is associated with an elevated probability of a single long spell, which is at the expense of churning rather than a single short spell. For females, incapacity is associated with an elevated probability of transferring, at the expense of both

single short spells and churning-only. However, this elevated probability of transferring is partially offset by a reduced probability of a single long spell on the one payment-type.¹¹

Turning to the estimates for churning and transferring history, it is clear that past churning and transferring behaviour has a large influence on individuals' current churning and transferring behaviour. This is true for both males and females, although effects are stronger for males. The general impression is that there is a high degree of repetitiveness in patterns of receipt. For example, males who were churners in the two years preceding commencement of the observation window have a 0.142 higher probability of being in the churning group and a 0.055 higher probability of being in the 'both churn and transfer' group than males with no payment history. Similarly, for those with a single long spell in the two years prior to the observation window, for both males and females the probability of another single long spell is approximately 0.1 higher than for those with no payment history.

A further striking feature of the estimates for the payment history variables is that they imply recent payment receipt of any kind acts to reduce the probability of a single short spell, the most desirable pattern of receipt given that an individual has taken up income support at all. Although payment history variables will capture both individual heterogeneity and habit formation, the finding nonetheless would seem to reinforce the importance of preventing initial entry to income support. We might also add that, compared with persons with no payment history, those with a history of churning do not have a significantly different probability of experiencing a single long spell or a payment transfer. If churning is a pathway to eventual 'escape' from income support reliance, we might expect to see lower probabilities of transferring and/or experiencing a single long spell (although we note that this need not be true given that all inferences are conditional on actually commencing an income support spell in the 1997-98 period).

¹¹ Examination of the initial payment-type of those classified as incapacitated at commencement of the observation window sheds some light on the reasons for the differences between males and females. There are three possible payment-types for individuals in this group: DSP, Newstart Allowance and Sickness Allowance. Similar proportions of males and females in this group commenced on DSP, but the proportion that commenced on Sickness Allowance is higher for males, while the proportion that commenced on Newstart Allowance is higher for females. In the period examined, Sickness Allowance was only paid to persons temporarily ill or injured who had a job to return to on recovery. This payment-type is therefore relatively more likely to be associated with a single short spell, and is not likely to be associated with transferring. Newstart Allowance, on the other hand, is more likely to be associated with transferring because of the potential to transfer to DSP. Differences between males and females in the initial payment-type composition of those initially incapacitated can therefore potentially explain the differences in the effects associated with initial incapacity – in particular, the elevated probability of transferring for incapacitated females, and the absence of this effect or a reduction in the probability of a single short spell for incapacitated males.

Table 8a: Characteristics associated with alternative patterns of income support receipt – Males

	Single short spell		Single long spell		Transfer only		Churn only		Churn & transfer	
	Effect	S.E	Effect	S.E	Effect	S.E	Effect	S.E	Effect	S.E
Commenced in 1997-98	0.018*	0.009	0.026**	0.007	0.004	0.003	-0.027**	0.010	-0.020**	0.004
<i>Age group (15-19)</i>										
20-24	0.090**	0.018	-0.001	0.013	0.038**	0.014	-0.126**	0.017	-0.002	0.009
25-34	0.068**	0.017	0.019	0.013	0.050**	0.013	-0.142**	0.017	0.005	0.009
35-44	0.022	0.020	0.052**	0.017	0.104**	0.020	-0.180**	0.020	0.002	0.010
45-54	-0.045**	0.022	0.105**	0.021	0.160**	0.028	-0.220**	0.021	0.001	0.011
55-59	-0.177**	0.022	0.083**	0.028	0.371**	0.047	-0.333**	0.022	0.057**	0.022
60-64	-0.280**	0.013	0.098**	0.039	0.520**	0.057	-0.384**	0.023	0.046	0.029
<i>Country of birth & indigenous status (Non-indigenous Australian-born)</i>										
ESB immigrant	0.003	0.017	-0.038**	0.011	-0.008	0.005	0.039**	0.019	0.003	0.009
NESB immigrant	0.003	0.013	0.020**	0.010	-0.008**	0.004	-0.005	0.015	-0.010	0.006
Indigenous	-0.209**	0.019	0.040**	0.020	0.003	0.011	0.087**	0.027	0.078**	0.018
<i>Partner status (Single)</i>										
Partner on IS, no earnings	0.030	0.018	-0.005	0.012	0.022**	0.007	-0.050**	0.019	0.003	0.009
Partner on IS, earnings	0.102**	0.032	-0.033*	0.018	-0.002	0.011	-0.063**	0.032	-0.004	0.015
Partner not on IS	0.096**	0.020	-0.037**	0.011	-0.010*	0.006	-0.059**	0.021	0.010	0.011
<i>Presence of dependent children (No children)</i>										
Youngest child aged 0-2	-0.015	0.022	0.014	0.018	0.002	0.009	-0.023	0.025	0.022	0.014
Youngest child aged 3-5	-0.039	0.029	0.014	0.023	0.023	0.015	-0.011	0.033	0.012	0.018
Youngest child aged 5-12	-0.027	0.023	0.018	0.017	-0.009	0.007	-0.010	0.026	0.027*	0.015
Youngest child aged 13+	0.009	0.028	-0.002	0.019	0.007	0.010	-0.022	0.030	0.009	0.016
<i>Activity/payment-type</i>										
Unemployed	0.036**	0.017	-0.059**	0.014	-0.040**	0.008	0.096**	0.018	-0.032**	0.010
Incapacitated	-0.014	0.021	0.043**	0.016	0.008	0.007	-0.048**	0.023	0.011	0.010
<i>Non-welfare income</i>										
Earnings amount	-0.015**	0.002	0.000	0.002	-0.001**	0.001	0.014**	0.002	0.002**	0.000
Earnings time	0.198**	0.024	-0.025	0.022	-0.074**	0.012	0.004	0.028	-0.104**	0.014
Other income amount	0.004	0.003	0.001	0.002	-0.004	0.003	-0.002	0.003	0.001	0.002
Other income time	0.076**	0.014	0.023**	0.010	-0.009*	0.005	-0.067**	0.016	-0.024**	0.008
<i>Churning & transferring history (No history)</i>										
Single short spell	-0.078**	0.011	-0.012	0.009	-0.009**	0.004	0.087**	0.013	0.012*	0.007
Single long spell	-0.207**	0.011	0.118**	0.014	0.024**	0.007	0.019	0.017	0.047**	0.010
Transferred	-0.137**	0.031	0.078**	0.034	0.024	0.019	-0.048	0.045	0.083**	0.029
Churned	-0.196**	0.011	-0.005	0.010	0.003	0.006	0.142**	0.015	0.055**	0.010
Churned & transferred	-0.185**	0.039	0.001	0.043	0.017	0.027	0.022	0.065	0.145**	0.060
<i>Housing status (Renting – private sector)</i>										
Home-owner – outright	0.023	0.017	-0.001	0.011	0.001	0.005	-0.005	0.018	-0.018**	0.007
Home-owner – purchasing	0.057**	0.026	-0.028*	0.017	0.001	0.009	-0.035	0.029	0.005	0.013
Home-owner – other	-0.082**	0.041	0.085**	0.037	-0.016	0.010	0.029	0.051	-0.016	0.018
Renting – public housing	-0.083**	0.031	0.079**	0.027	0.013	0.012	-0.001	0.035	-0.007	0.013
Other non-owner	-0.015	0.011	0.011	0.009	-0.001	0.004	0.005	0.012	0.000	0.006
<i>State/territory of residence (Victoria)</i>										
New South Wales/ACT	0.004	0.013	-0.010	0.009	-0.001	0.005	0.011	0.014	-0.004	0.007
Queensland	-0.029**	0.014	-0.033**	0.009	0.006	0.006	0.057**	0.016	-0.001	0.007
South Australia	-0.040**	0.018	0.007	0.014	0.014*	0.008	0.020	0.021	-0.002	0.010
Western Australia	-0.028*	0.017	-0.033**	0.011	-0.017**	0.005	0.083**	0.019	-0.005	0.008
Tasmania	-0.027	0.028	0.019	0.023	0.007	0.012	0.014	0.032	-0.012	0.013
Northern Territory	-0.020	0.041	-0.015	0.025	-0.031**	0.005	0.076*	0.042	-0.009	0.014

Notes: Table reports multinomial probit marginal effects estimates evaluated at the mean value of characteristics. Categories in bracket are the omitted dummies. SE – Standard error. ** and * indicate significance at the 5% and 10% level respectively. ESB immigrant – Immigrant born in main English-speaking countries; NESB immigrant – Immigrant born in country other than main English-speaking countries.

Table 8b: Characteristics associated with alternative patterns of income support receipt – Females

	Single short spell		Single long spell		Transfer only		Churn only		Churn & transfer	
	Effect	S.E	Effect	S.E	Effect	S.E	Effect	S.E	Effect	S.E
Commenced in 1997-98	-0.020**	0.010	0.012	0.008	0.004	0.007	0.016	0.010	-0.011**	0.005
<i>Age group (15-19)</i>										
20-24	0.127**	0.019	0.004	0.018	-0.021*	0.012	-0.084**	0.017	-0.026**	0.008
25-34	0.115**	0.020	0.039**	0.018	-0.011	0.012	-0.101**	0.018	-0.042**	0.008
35-44	0.096**	0.023	0.078**	0.022	-0.019	0.014	-0.104**	0.020	-0.051**	0.008
45-54	-0.010	0.023	0.175**	0.026	0.029*	0.017	-0.164**	0.020	-0.030**	0.009
55-59	-0.171**	0.022	0.222**	0.036	0.219**	0.035	-0.232**	0.021	-0.039**	0.011
60-64	-0.255**	0.015	0.419**	0.042	0.152**	0.039	-0.261**	0.021	-0.055**	0.010
<i>Country of birth & indigenous status (Non-indigenous Australian-born)</i>										
ESB immigrant	0.014	0.019	-0.013	0.015	0.006	0.014	-0.009	0.020	0.002	0.012
NESB immigrant	-0.028**	0.013	0.017	0.011	0.005	0.009	0.004	0.015	0.003	0.008
Indigenous	-0.161**	0.023	0.012	0.025	0.075**	0.024	0.002	0.030	0.071**	0.021
<i>Partner status (Single)</i>										
Partner on IS, no earnings	-0.003	0.016	-0.072**	0.011	0.055**	0.013	0.003	0.016	0.018*	0.010
Partner on IS, earnings	0.082**	0.027	-0.100**	0.014	-0.046**	0.015	0.045*	0.027	0.019	0.017
Partner not on IS	0.067**	0.017	-0.076**	0.010	0.008	0.012	-0.003	0.017	0.003	0.010
<i>Presence of dependent children (No children)</i>										
Youngest child aged 0-2	-0.106**	0.019	0.086**	0.020	-0.009	0.015	0.016	0.023	0.013	0.014
Youngest child aged 3-5	-0.078**	0.023	0.066**	0.023	0.007	0.019	-0.026	0.027	0.031*	0.018
Youngest child aged 5-12	-0.055**	0.021	0.055**	0.020	-0.009	0.015	0.003	0.023	0.006	0.014
Youngest child aged 13+	0.007	0.025	-0.047**	0.017	0.036*	2.E-02	-0.043*	0.025	0.047**	0.019
<i>Activity/payment-type</i>										
Unemployed	0.088**	0.017	-0.170**	0.013	-0.008	0.012	0.080**	0.017	0.010	0.010
Incapacitated	-0.056**	0.022	-0.055**	0.014	0.121**	0.021	-0.065**	0.022	0.054**	0.017
<i>Non-welfare income</i>										
Earnings amount	-0.008*	0.004	-0.007**	0.002	-0.001	0.002	0.013**	0.003	0.003**	0.001
Earnings time	0.148**	0.025	0.014	0.019	-0.121**	0.018	0.050**	0.023	-0.090**	0.012
Other income amount	-0.026**	0.010	0.008**	0.003	0.006**	0.002	0.009*	0.005	0.004**	0.002
Other income time	0.084**	0.014	0.018	0.012	-0.051**	0.010	-0.013	0.015	-0.037**	0.008
<i>Churning & transferring history (No history)</i>										
Single short spell	-0.065**	0.012	-0.011	0.011	0.012	0.010	0.047**	0.014	0.018**	0.008
Single long spell	-0.153**	0.013	0.104**	0.016	0.025**	0.012	0.000	0.017	0.024**	0.010
Transferred	-0.141**	0.022	-0.020	0.022	0.133**	0.026	-0.020	0.029	0.047**	0.019
Churned	-0.126**	0.014	-0.033**	0.015	-0.003	0.012	0.117**	0.019	0.045**	0.012
Churned & transferred	-0.180**	0.032	-0.078**	0.030	0.103**	0.043	0.005	0.049	0.150**	0.042
<i>Housing status (Renting – private sector)</i>										
Home-owner – outright	0.022	0.016	0.031**	0.013	-0.028**	0.010	-0.008	0.017	-0.017**	0.008
Home-owner – purchasing	0.050**	0.024	-0.007	0.019	-0.028*	0.015	0.003	0.025	-0.017	0.012
Home-owner – other	-0.068*	0.036	0.064*	0.034	-0.045**	0.020	0.078*	0.043	-0.028	0.021
Renting – public housing	-0.041	0.028	0.034	0.025	-0.012	0.017	0.008	0.029	0.011	0.016
Other non-owner	0.019	0.013	0.018	0.012	-0.021**	0.009	-0.003	0.013	-0.012*	0.007
<i>State/territory of residence (Victoria)</i>										
New South Wales/ACT	0.001	0.013	-0.009	0.011	0.006	0.009	-0.001	0.014	0.003	0.008
Queensland	-0.027*	0.014	-0.028**	0.012	-0.001	0.010	0.029*	0.016	0.027**	0.010
South Australia	-0.028	0.020	-0.003	0.018	0.009	0.015	0.016	0.022	0.007	0.013
Western Australia	-0.002	0.018	-0.048**	0.014	-0.015	0.012	0.041**	0.020	0.025**	0.013
Tasmania	-0.027	0.029	-0.038	0.024	0.041	0.026	0.001	0.033	0.023	0.021
Northern Territory	-0.020	0.044	0.004	0.037	-0.035	0.024	0.053	0.047	-0.001	0.024

Notes: Table reports multinomial probit marginal effects estimates evaluated at the mean value of characteristics. Categories in bracket are the omitted dummies. SE – Standard error. ** and * indicate significance at the 5% and 10% level respectively. ESB immigrant – Immigrant born in main English-speaking countries; NESB immigrant – Immigrant born in country other than main English-speaking countries.

To capture effects associated with family status variables are included for partner status and the presence of dependent children. Partner status is differentiated according to whether the partner is an income support recipient and, if so, whether the partner has labour market earnings within the first three fortnights of the observation window. Estimates imply partner status has somewhat different effects for males and females.

A partnered male is less likely to churn-only than a single male, irrespective of his partner's income support status. However, in other respects, partnered males are not significantly different from single males if the partner is on income support and has no earnings. By contrast – and interestingly – a male with a partner who was on income support but had labour market earnings is not significantly different from a male with a partner who was not on income support. Males in either of these categories have a greater probability of a single short spell and a lower probability of a single long spell than either single males or males partnered with a non-earning income support recipient (the latter two of which are similar in this respect). Thus, having a partner who is either not on income support or is on income support but has earnings is associated with similarly 'good' outcomes for males, while being single or having a non-earning partner on income support is associated with similarly 'bad' outcomes.

For females, there are no significant differences in probability of churning by partner status, with all differences confined to the probability of each type of single income support spell (first three columns of Table 8). Nonetheless, in common with males, it is reasonable to characterise those partnered with a non-recipient or partnered with a recipient with earnings as more likely to have a single short spell and less likely to have a single long spell (whether that spell involve a payment transfer or not). On the reasonably plausible assumption that a partner not on income support is employed, for both males and females, the estimates suggest it is the partner's employment status, rather than the partner's income support status, or indeed the presence of a partner per se, that matters most to an individual's pattern of income support receipt.

Dependent children have little impact on patterns of receipt for males, but for females effects are evident, primarily on the relative likelihoods of single long spells and single short spells. Specifically, females with dependent children under 13 years of age are more likely to have a single long spell on the one payment-type and less likely to have multiple spells with the same payment-type. Females with dependent children over 13 years of age at commencement of the observation window are less likely than females without dependent children to have a single long spell, but are more likely to be in the 'churn and transfer' group. This effect is likely to

reflect loss of eligibility for parenting payments once the youngest child reaches 16 years of age, although it may also reflect reduction in caring responsibilities associated with ageing of children.

For both males and females, country of birth appears to have little influence on churning and transferring behaviour, with two exceptions. First, male immigrants from the main English-speaking countries are less likely to have a single long spell and are more likely to churn than are the native-born or immigrants from other countries. Second, female immigrants from countries other than the main English-speaking countries are less likely to have a single short spell than are the native-born or other immigrants.

Substantial effects are associated with indigenous status. Single short spells are much less likely for indigenous males, who have greater probabilities of single long spells, churning-only and churning-and-transferring than other males. Indigenous females are similarly less likely to have a single short spell than other females; but, unlike males, indigenous females have an elevated probability of transferring, and do not have an elevated probability of single long spells, compared with other females.

Non-welfare income while on income support is not associated with strong effects on patterns of receipt. Nonetheless, an interesting finding with respect to earned income while on income support is that the proportion of fortnights with positive earnings generally works in the opposite direction to the average value (amount) of earnings in those fortnights with positive earnings. For example, increasing the average amount of earnings by 100 dollars per fortnight in which earnings are positive lowers the probability of a short spell on one payment by 0.015 for males and 0.008 for females. In contrast, increasing the proportion of the fortnights on income support in which an individual has positive earnings from zero to 100% raises the probability of a single short spell by 0.198 for males and 0.148 for females. This ‘time’ effect is perhaps more consistent with intuition than the ‘amount’ effect, since a higher proportion of time on income support with earnings suggests greater potential for securing sufficient employment to facilitate exit income support.

Table 8 also contains mean marginal effects estimates for housing status. As might be expected, residing in public housing is, compared with renting privately, associated with a decreased probability of a single short spell and an increased probability of a single long spell – although only for males are differences statistically significant. This effect is also evident for home-owners who do not have outstanding mortgage commitments. Home-ownership

with outstanding mortgage commitments, by contrast, is associated with an increased likelihood of a single short spell, which likely reflects sharper incentives to exit due mortgage repayment commitments and ineligibility for rent assistance.

6. Conclusion

A finding of this study is that churning and transferring are significant features of income support receipt in Australia. Over half of recipients churn within five years of commencing an income support spell, while one-fifth make a payment transfer within the same time frame. The clear implication is that a focus on individual sojourns on individual payment-types is inappropriate for understanding individuals' interactions with the welfare system and, correspondingly, is an inappropriate basis for policy formulation.

Our analysis of churning shows that most churners are unemployment benefit recipients, but to a large extent this simply reflects the fact that the unemployment benefit is the initial payment-type for approximately 70% of spell commencements. A substantial proportion of recipients of most payment-types are churners. We also find that 85% of churns involve a return to the same payment-type, suggesting it is the same, recurring 'problems' triggering entry to income support receipt. For most individuals, this recurring problem is inability to sustain employment, although whether the underlying causes of this are themselves recurring cannot be ascertained from the administrative data.

Payment transfers arise from changes in recipient circumstances, primarily in terms of age, family composition and health. We find that transferring most often involves a transition from a shorter-term payment-type to a longer-term payment-type, and so generally represents a movement towards entrenched reliance. Indeed, transfers are rarely of the kind that could be considered a 'stepping stone' to exit from income support. As such, most transferrers are found to have very high levels of reliance within the three-year time-frame we examine. Churning, by contrast, is found to not be associated with any particular level of reliance, with churners almost uniformly distributed across the range of possible reliance levels.

Examination of the characteristics associated with each of five distinct patterns of receipt reveals substantial differences in patterns by age, family type, initial unemployment status, initial work incapacity status, and recent history of income support receipt. Our findings further suggest that it is to some extent reasonable to characterise churners and transferrers as different groups of income support recipients. Churners tend to be young, single, able-bodied and unemployed, whereas transferrers and other long-spell recipients are more likely to be

older, have work-limiting health conditions, and – if female – have young dependent children. It is therefore likely that policies to reduce welfare reliance among churners need to be different to policies aimed at reducing welfare reliance among other recipients. For example, education and training may be more important for churners than for other recipients, for whom lack of access to facilities such as aids/equipment and child-care services may be more important barriers to sustained exit from income support.

Appendix

Appendix Table 1: Classification of payment-types

Category			Payment-type (database label)	No of obs*	
Level 1	Level 2	Level 3			
Activity-tested	Unemployment benefits	Unemployment benefits	Newstart Allowance (NSA)	1,165,907	
			Job Seeker Allowance (JSA)	142,789	
			Youth Training Allowance (YTA)	24,048	
			Youth Allowance (YAL)	95,919	
Not activity-tested	Other short-term Allowances	Special & Crisis Payment	Bereavement Allowance (BVA)	29	
			Crisis Payment (NSC)	653	
			Crisis Payment (PNC)	308	
			Drought Relief Payment (DR)	5,726	
			Drought Relief Payment (DRP)	352	
			Emergency and General Assistance (EMG)	653	
			Exceptional Circumstances Payment (ECP)	1,444	
			Farm Family Restart Scheme (FFR)	852	
			Special Benefit (SPB)	5,263	
			Special Benefit (SPL)	5,613	
	Sickness Allowance	Sickness Allowance	Sickness Allowance (SA)	18,915	
			Sickness Allowance (SKA)	13,294	
	Other long-term payments	Mature Age Allowance	Mature Age Allowance	Newstart Mature Age Allowance (NMA)	46,956
				Mature Age Allowance (MAA)	35,075
				Partner Allowance (PA)	52,005
				Mature Age Partner Allowance (MPA)	8,710
		Widow Allowance	Widow Allowance	Partner Allowance (PTA)	96,294
				Widow Pension (WID)	29,461
				Widow Allowance (WA)	9,924
		Widow Allowance	Widow Allowance	Widow Allowance (WDA)	33,486
Carer Payment				Carer Payment (CAR)	71,527
Age Pension		Age Pension	Age Pension	Wife's Pension Age (WFA)	57,590
	Wife's Disability Support Pension (WFD)			136,555	
	Age Pension (AGE)			337,571	
Parenting Payment Single	Parenting Payment Single	Parenting Payment Single	Sole Parent Pension (SPP)	240,399	
			Parenting Payment Single (PPS)	432,490	
Parenting Payment Partnered	Parenting Payment Partnered	Parenting Payment Partnered	Partner of Newstart – NMA, NSA, SKA, AUS (PGN)	203,916	
			Partner of Pension – AGE, DSP, PEN (PGP)	28,487	
			Partner of person on low income (PGL)	160,523	
			Parenting Basic (PGA)	4	
			Partner of dependent YA recipient (PGY)	84	
			Crisis Payment (PGC)	6	
			DSP	DSP	DSP
			Disability Wage Supplement (DWS)	154	

* An observation is a payment record for a single fortnight. The total number of observations is equal to the number of fortnightly payment records over the period 7 July 1995 to 14 June 2002 for persons aged 15-64 years at the time the record was generated.

Appendix Table 2: Sample means of explanatory variables by sex and financial year

	1997-98		1998-99		Total
	Males	Females	Males	Females	
<i>Age group (%)</i>					
15-19	14.9	14.6	14.5	15.2	14.8
20-24	19.8	18.3	19.8	18.3	19.1
25-34	28.9	28.3	28.6	25.9	28.0
35-44	18.1	19.6	18.4	19.9	19.0
45-54	12.4	11.6	11.6	12.8	12.1
55-59	4.1	5.1	4.9	4.5	4.6
60-64	1.8	2.4	2.1	3.4	2.4
<i>Country of birth & indigenous status (%)</i>					
Non-indigenous Aus-born	72.5	70.8	71.3	71.7	71.6
ESB immigrant	8.4	8.1	8.6	7.6	8.2
NESB immigrant	15.1	17.6	16.0	17.2	16.4
Indigenous	3.9	3.6	4.2	3.5	3.8
<i>Partner status (%)</i>					
Single	68.1	60.4	68.6	62.6	65.2
Partner on IS, no earnings	18.9	17.5	18.2	17.4	18.0
Partner on IS, earnings	3.8	4.2	2.4	4.5	3.7
Partner not on IS	9.2	17.9	10.8	15.5	13.1
<i>Presence of dependent children (%)</i>					
No dependent children	80.3	64.2	80.0	63.6	72.6
Youngest child aged 0-2	6.6	12.0	7.7	14.0	9.8
Youngest child aged 3-5	3.2	6.5	2.9	5.3	4.4
Youngest child aged 5-12	6.1	10.9	5.9	10.7	8.2
Youngest child aged 13+	3.8	6.5	3.5	6.4	5.0
<i>Activity/payment-type (%)</i>					
Unemployed	79.1	44.7	78.0	44.8	62.8
Incapacitated	12.1	8.2	12.7	8.3	10.5
Other	8.8	47.1	9.3	46.9	26.7
<i>Non-welfare income</i>					
Earnings amount (\$)	\$265.2	\$199.9	\$234.5	\$195.0	\$225.9
Earnings time (%)	15.4	21.2	14.5	20.8	17.8
Other income amount (\$)	\$15.2	\$21.0	\$12.6	\$19.2	\$16.8
Other income time (%)	20.6	28.8	20.1	28.1	24.1
<i>Churning & transferring history (%)</i>					
No history	46.7	52.6	48.6	55.8	50.6
Single short spell	22.5	20.0	22.2	20.1	21.3
Single long spell	12.3	12.5	11.5	10.5	11.7
Transferred	1.6	3.5	1.2	3.2	2.4
Churned	16.2	10.2	15.9	9.5	13.2
Churned & transferred	0.7	1.2	0.6	0.9	0.8
<i>Housing status (%)</i>					
Home-owner – outright	32.3	31.8	34.3	32.7	32.8
Home-owner – purchasing	17.4	23.6	16.0	23.7	19.9
Home-owner – other	3.9	5.3	4.2	5.2	4.6
Renting – private sector	1.2	2.1	1.1	1.6	1.5
Renting – public housing	2.5	3.9	2.3	3.3	3.0
Other non-owner	41.9	32.3	39.9	31.2	36.7
<i>State or territory of residence (%)</i>					
Victoria	21.6	23.9	21.7	23.8	22.7
New South Wales/ACT	32.1	32.6	31.0	30.7	31.6
Queensland	23.3	21.4	22.8	22.1	22.4
South Australia	7.6	7.2	8.3	8.0	7.8
Western Australia	11.1	10.2	11.3	11.4	11.0
Tasmania	2.8	3.0	3.2	2.8	2.9
Northern Territory	1.5	1.7	1.7	1.2	1.5
<i>Number of observations</i>	5,719	4,903	5,164	4,590	20,376

References

- Australian Bureau of Statistics (ABS) (2006) *Labour Force, Australia, Spreadsheets* (cat. no. 6202.0.55.001).
- Barrett, G. (2002) 'The Dynamics of Participation in the Sole Parent Pension,' *Economic Record* 78(240), 1-17.
- Birrell, B., Maher, C. and Rapson, V. (1997) 'Welfare Dependence in Australia,' *People and Place* 5, 44-53.
- Chay K. Hoynes, H. and Hyslop D. (1999) 'A Non-experimental Analysis of 'True' State Dependence in Monthly Welfare Participation Sequences,' *American Statistical Association, 1999 proceedings of the Business Economics and Statistics Section*, pp. 9-17.
- Department of Families, Community Services and Indigenous Affairs (FaCSIA) (2006) *Income Support Customers: A Statistical Overview 2004*, Statistical Paper No. 3, FaCSIA, Canberra.
- Disney, R. (1979) 'Repeated Spells and the Concentration of Unemployment in Great Britain,' *The Economic Journal* 89(353), 109-19.
- Gong X. (2004) 'Transition Patterns for the Welfare Reliance of Low Income Mothers in Australia,' IZA Working Paper, No. 1047.
- Gottschalk, P. and R. Moffitt. (1994). 'Welfare Dependence: Concepts, Measures and Trends,' *American Economic Review* 84(2): 38-42.
- Gregory, R. and E. Klug (2002) 'Some Implications of Multiple Income Support Spells Among Lone Mothers with Dependent Children,' mimeo, Economics Program, Research School of Social Sciences, Australian National University.
- Gregory, R. and E. Klug (2003) 'A Picture Book Primer: Welfare Dependency and the Dynamics of Female Lone Parent Spells,' mimeo, Economics Program, Research School of Social Sciences, Australian National University
- Harris, M. and G. Kalb (2005) 'Movements Between Benefit Types,' Melbourne Institute Report No. 5, University of Melbourne.
- Kumar, A. and J. De Maio (2004) *Welfare Dynamics of Mature Age Customers: An Analysis using the FaCS Longitudinal Data Set*, ABS, Canberra.

Le, A. and P. Miller (2001) 'Is a risk index approach to unemployment possible?' *Economic Record*, 77, 51-70.

Moffitt, R. (2001) 'Experience-based measures of heterogeneity in the welfare caseload,' in C. Citro, R. Moffitt and S. Ver Ploeg (eds.) *Data Collection and Research Issues for Studies of Welfare Populations*, Washington, National Academy Press.

Tseng, Y-P. and R. Wilkins (2003) 'Reliance on Income Support in Australia: Prevalence and Persistence,' *Economic Record* 79(245), 196-217.