

Final Report

Location Economics of Income Support Recipients: A comparison to the general population*

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Table of Contents

Contents	page number
Executive Summary	3
1. Introduction.....	6
2. Literature Review.....	7
3. Data.....	12
3.1 The LDS.....	15
3.2 The HILDA Survey.....	21
4. Methodology.....	28
5. Results.....	32
5.1 Factors determining the migration choices of welfare recipients and the general population.....	32
5.1.1 Results based on the HILDA Survey	32
5.1.2 Results based on the LDS	37
5.2 Location decisions	39
5.2.1 Results based on the HILDA Survey	39
5.2.2 Results based on the LDS	45
5.3 Labour market outcomes of internal migration	49
5.3.1 Results based on the HILDA Survey	50
5.3.2 Results based on the LDS	52
6. Conclusion	56
References.....	58
Appendix.....	60

Executive Summary

The report focuses on four questions:

- what are the patterns of internal migration among different categories of income support recipients;
- how have such patterns changed over time, and to what extent;
- what factors, particularly economic factors (for example, employment opportunities and cost of living), determine the migration choices of welfare recipients; and
- what are the labour market outcomes of internal migration?

The first two questions are addressed using descriptive analyses. From the Household, Income and Labour Dynamics in Australia (HILDA) Survey data, it appears that benefit recipients are somewhat more likely to move than other individuals. From the Longitudinal Data Survey (LDS) it appears that amongst the benefit recipients, those on unemployment-related payments, such as NewStart Allowance, Mature Age Allowance and Youth Allowance (Other), are most likely to move, followed by those on Parenting Payment Single and Disability Support Pension. A similar ranking of mobility is found in the HILDA data. The reasons given for moving in the HILDA data are to a large extent similar between benefit recipients and other individuals, and are mostly lifestyle- and family-related reasons. This is similar to what several other researchers have found for Australia. Similar characteristics affect mobility in both the LDS and HILDA data sets. Women are less likely to move, young and single individuals are more likely to move, as are individuals from Aboriginal or Torres Strait Islander descent. Migrants from non-English speaking backgrounds and households with older (school-aged) children appear less likely to move.

In general, individuals tend to be slightly more likely to move to a location with lower unemployment rates than one with higher unemployment rates, whereas benefit recipients appear equally likely to move to areas with either higher or lower unemployment rates.

The time period covered by the four waves of the HILDA data is too short to say anything on changes of mobility patterns over time; however, the LDS shows a steady decrease in mobility since 2001. This is partly due to the decrease in the proportion of unemployment-related benefit recipients amongst all income support recipients, and is reinforced by a general

decrease in mobility amongst unemployment-related benefit recipients and Parenting Payment Single recipients.

The third question is addressed using two alternative approaches. First, mobility is analysed directly using a probit approach to explain what characteristics are associated with the decision to move. The dependent variable has a 0 – 1 outcome: did not move or moved, respectively. The factors that affect benefit recipients (in both the HILDA and LDS) are to a large extent similar to the factors that affect non-recipients. For example, older individuals, homeowners, government renters (only available in LDS) and parents, in particular of older children, are less likely to move, independent of benefit reciprocity. In both data sets, those who have moved before are more likely to move in the current period as well. Due to the large sample size of the LDS, nearly all variables in the analysis are significant. In the LDS, people of Aboriginal or Torres Strait Islander descent and migrants from an English-speaking background (to a lesser extent) are more likely to move, whereas migrants from a non-English-speaking background are less likely to move. Similar non-significant effects are found for the general population in HILDA. Persons living in Victoria or New South Wales are least likely to move, whereas those living in Queensland or the Northern Territory are the most likely to move. Although there are a few differences between benefit recipients and non-recipients, on average, male and female benefit recipients appear no more or less likely to move than other individuals, once we have controlled for a wide range of household and individual characteristics. That is, differences in characteristics appear to cause the differences in mobility between benefit recipients and non-recipients. Within the group of benefit recipients, those on unemployment-related payments are more likely to move than the recipients of other payment types. Recipients who receive earned or unearned income are less likely to move.

Second, the location decision itself is analysed. In this approach, we distinguish 57 regions in Australia, between which each individual living in Australia can choose. From this analysis of the HILDA and LDS, similar to the findings in the first approach, we also find that older individuals, homeowners and parents, in particular of older children, are less likely to move. Unemployment rates are found to have some effect on location choices for subgroups of individuals in the HILDA, depending on benefit reciprocity. Benefit recipients in the HILDA and the LDS appear to be unaffected by unemployment rates in their choice of location. Median housing prices have the expected effect (higher prices discourage individuals from locating in a region), but median unit prices (which have been collected separately from the

housing prices) have the opposite effect. This result is found in both datasets, although it is not significant in all cases. The most important factor in the location decision is whether a move is required to make that choice, and the distance involved in the required move. The necessity of a move, and particularly when the new location is further from the old location, has a negative effect on the probability of choosing that location.

The fourth question is analysed by estimating the employment rate in a period t for people who were not employed and on benefits in the previous period $t-1$. Each period lasts one year. The unemployment rate has the right sign but is only significant for men. As expected, due to the requirement to look for work, individuals on NewStart Allowance are more likely to be employed after one year (both in the LDS and in HILDA). However, mobility does not appear to affect the probability significantly, independent of the reason for moving. Note that the sample size for this analysis is relatively small. Using the LDS data, a very small positive significant effect of moving on the probability of employment can be found, when a range of interaction effects are also included. The first interaction effect is to examine the effects of those who were employed in the previous period separately. The second set of interaction effects is to differentiate between those moving to a location with higher unemployment rates and those moving to an area with lower unemployment rates (defined as areas with rates that are at least one percentage point higher or lower than the rate in the starting location). A large negative effect from moving on the probability of employment arises when people who are employed move location. People moving to an area of higher unemployment are also less likely to be employed due to the move. For others, there appears to be a very small positive effect.

This result on the effect of mobility is consistent with the observations from the descriptive analyses. These are that most people move for non-labour market related reasons and that the number of benefit recipients who move to areas with lower unemployment rates is about the same as the number of benefit recipients who move to areas with higher unemployment rates. The latter is found both from the HILDA data and from the LDS. Therefore, no major effect of mobility on employment is to be expected.

1. Introduction

The aim of this report is to analyse the mobility of income support recipients in comparison to the mobility of the general population in Australia, and to compare different groups of income support recipients with each other. Although there have been a number of recent studies, these have tended to focus on income support recipients in isolation, rather than comparing them to a similar group of individuals who are not on income support. In addition, we use an alternative approach by starting from the broader issue of location decisions, and the factors that influence these decisions, rather than aiming to explain mobility alone. This means that in addition to individual and household characteristics, regional attributes are included in the analysis. The analyses in this paper are mostly based on revealed preferences, although reported reasons for moving are included in some of the modelling.

The questions which are addressed in this report are the following:

- what are the patterns of internal migration among different categories of income support recipients;
- how have such patterns changed over time, and to what extent;
- what factors, particularly economic factors (for example, employment opportunities and cost of living), determine the migration choices of welfare recipients; and
- what are the labour market outcomes of internal migration?

The first two (more descriptive) questions are addressed in Section 3 (concerning the data), which provides descriptive statistics on the movers and non-movers and on income support recipients versus the general working-age population. The Household, Income and Labour Dynamics in Australia (HILDA) Survey contains four years (or waves) of data on the general population that provides only a limited time period over which changes can be analysed (from 2001 to 2004). However, the administrative data on income support recipients (Longitudinal Data Set (LDS)) is available over a longer period of ten years, from 1995 to 2005.

The last two questions are addressed using multivariate analyses, the results of which are discussed in Section 5 and are based on consideration of HILDA and LDS separately. A comparison of the mobility between the general population and those on income support is presented throughout Sections 3 and 5. Section 6 concludes.

2. Literature Review

A few researchers have examined the mobility of individuals and its determinants for Australia; however, they have usually focussed on income support recipients in isolation. We give a brief description of the Australian and international literature in this section, starting with Australian research.

Morrow (2000) describes the mobility of Disability Support Pension recipients from September 1996 to September 1997, using the Department of Families, Community Services and Indigenous Affairs' (FaCSIA) Longitudinal Data Set (LDS). He looks at a number of possible explanations for mobility in turn, and concludes that, perhaps not surprisingly, employment appears to be of no consideration in the decision to move. There is a tendency for people to move away from low employment areas but these also tend to be remote, warm and dry areas in Australia, whereas the preference seems to be to live in temperate coastal regions in reasonably populous regions. Although people on lower private incomes and paying higher rents are more likely to move, it appears that the move does not necessarily result in increased income or decreased rent paid. Further, the data showed that people are more likely to move a short distance rather than a longer distance. It would be of interest to extend his analysis by using a multivariate approach to explain the occurrence of mobility. A multivariate approach would be better suited to isolate the individual contributions of the different individual and location characteristics to the decision to move.

Using their own survey, based on a stratified sample from the LDS, Marshall *et al.* (2006) focus on retirement migration of those on income support between metropolitan and non-metropolitan areas. The experiences of individuals moving to and from metropolitan areas are analysed separately. Those moving from metropolitan areas appeared to be mostly driven by lifestyle factors, and secondarily by financial advantages through lower cost of living (housing costs). For the reverse migrants, proximity to family and friends together with health reasons and relationship changes were the most important drivers. Also, the majority of the reverse migrants had lived in a metropolitan area before. This data has also been used in a more general study by the same authors (Marshall *et al.*, 2004) analysing migration from non-metropolitan to metropolitan areas of income support recipients. They distinguish four income support categories: unemployed persons, single parents, disabled persons, and age pensioners. Again the report is fairly descriptive, but has the advantage that it is based on information given by the income support recipients explaining their reasons for moving.

For the unemployed and single parents, the most important consideration in moving was to obtain employment. Due to the group surveyed in the study being unsuccessful in obtaining full-time employment, this group was relatively dissatisfied with the move. For those who were disabled, health-related factors were the most important. For age pensioners, both health- and family-related factors were important. Although housing cost had an impact on the satisfaction of movers, it did not seem to influence the decision to move.

Marshall *et al.* (2003) examined the reverse migration flows by low-income earners from metropolitan to non-metropolitan areas. Housing affordability was a major reason to move for low-income households, although lifestyle and personal reasons also played an important role. The unemployed were most likely to relocate back to the metropolitan area after their move due to a lack of employment in non-metropolitan areas. Similarly, age pensioners may have to relocate back due to health and family reasons. Independent of the direction of the move, either to or from a metropolitan area, in most cases those who moved seemed quite satisfied with the move.

Bradbury and Chalmers (2003) used the LDS to analyse mobility of unemployment-related income support recipients and non-unemployment related income support recipients, examining the mobility determinants of the two groups. They found that labour market conditions appear important for unemployment-related income support recipients but not for the other income support recipients. Although individuals in low unemployment regions are more likely to move, it is also found that mobility is towards lower unemployment rate areas. In addition, moving is found to occur mostly early in the unemployment-related payment receipt period. Housing costs appear less important as a pull factor, although it appears to be a reason for leaving a region. This effect is close to significance for those on non-unemployment related payments. In addition, for the unemployment-related income support recipients, Bradbury and Chalmers (2003) analyse the effect of mobility on the probability of exiting from the unemployment-related payment and on the duration of the unemployment-related payment. Using two alternative approaches, they conclude that local labour market conditions (such as unemployment rate and the size of the labour market) appear to have some effect on the probability of ceasing unemployment-related payment receipt.

To place the mobility of income support recipients into context, we need to compare it with the mobility of the general population. Questions of interest are whether it is different, and how (and why) it is different. These questions can help us to understand the importance of mobility for particular subgroups. Some of the studies discussed above have made

comparisons but these were mostly restricted to comparisons between different types of income support recipients.

A recent Australian study by Bill and Mitchell (2006) used the first three waves of the HILDA Survey and focused on the mobility of employed versus unemployed individuals. It shows that those who are unemployed are more likely to move, but that moving does not assist in obtaining employment after controlling for selection into moving and controlling for moving due to obtaining a job.

A number of international studies analyse the effect of economic factors in the mobility decision, focussing on the effect of income support or welfare payments. Several US studies have investigated whether economic factors such as the level of welfare benefits affect individuals' migration decisions, whereby the different States in the US provide different levels of benefits. Blank (1988) started from an empirical model in which female-headed households with children choose a location to live (from 12 regions of grouped States) and whether they will be a welfare recipient. This choice is made based on expected income and hours of work for each location and the welfare participation option, which determine the utility derived from a choice. Local welfare benefits, wage rates and tax rates in each location determine the expected income and labour supply. Blank (1988) accounts for the cost of moving and the correlation of location choices over time. She found that the welfare and wage levels affect the households' decisions, in that the probability of moving from a low wage-low welfare area is substantially higher than the probability of moving from a high wage-high welfare area.

Enchautegui (1997) found similar results in a study, in which differences in State welfare, unemployment and wage levels were taken into account. She observed clear welfare effects, particularly amongst single mothers and amongst those without recent labour force experience. The results for the wage differentials were ambiguous, but higher unemployment was found to decrease migration into a State. Different results were found for different ethnic groups, with larger effects for Anglo-Saxon single mothers than for African-American single mothers. Unexpected and weak effects were found for Puerto Rican single mothers, indicating that economic factors may be less important in the migration decisions of this group.

A different conclusion was reached by Levine and Zimmerman (1999), who compared migration decisions of poor single parents (who are likely to be eligible for welfare benefits) with the migration patterns of other poor households. They found little evidence of an effect of welfare payments on migration, using a quasi-experimental design in which the single

parents are the treatment group (who are eligible to different levels of welfare payment) and the other poor households are the control group. This econometric approach allows them to control for other unobserved State-related factors which might influence individuals' choices in addition to any differences in welfare level.

Kennan and Walker (2006) analyse individual migration decisions with a special focus on the effect of expected income on mobility decisions between States in the US. This is a longitudinal study which uses a location-specific wage equation to generate alternative streams of income in the different States for use in a dynamic programming structure, allowing for multiple migration choices over individuals' lifecycles. For the sample of white male high-school graduates, expected income differentials are found to be important, with the effect mostly driven by a negative effect of income in the current location on the probability of moving out. The authors control for a number of other location aspects such as climate, housing cost, distance from current residence, and they allow for a disutility and cost associated with moving.

Another US study focussed on a further aspect of the welfare system. Painter (1997) analysed the effect of the waiting time on public housing waiting lists on intra-urban mobility, while controlling for a range of the usual variables. He found that longer waiting times reduced the intra-urban mobility, making it potentially difficult for households to leave impoverished areas with poor prospects.

Also in the US, O'Keefe (2004) analysed the internal migration of income support recipients in California, comparing it to the internal migration of the general population. Multivariate analysis was used including a range of characteristics of the different regions (counties), including variables such as crime rate, population density, cost adjusted benefit level, unemployment rate and distance from the current county of residence, in addition to individuals' characteristics. She found that the population of welfare recipients responds more to the cost of living and less to local unemployment rates in their migration decisions than the general population. Given the US social security system, which is not universal, this is as expected. O'Keefe (2004) pointed out that individuals who do not receive welfare should be more concerned about employment. Similarly, the larger effect of cost of living is as expected, since the general population could normally expect a higher income in areas with a higher cost of living, whereas the social security payment is independent of location. Using O'Keefe's approach in our case would enrich the analyses by using regional characteristics, in

particular the analysis of the administrative data which contain little information on individual characteristics.

In this report, we extend O’Keefe’s analysis by distinguishing separate effects for individuals of different ages, individuals with differently aged children, individuals on and off benefits, individuals in and out of employment, homeowners versus non-homeowners, single versus partnered individuals, and individuals on unemployment-related benefits versus individuals on other types of payments. Section 4 describes the methodological approach and our extension in detail. This analysis is used to model the location decisions of different groups of individuals observed in the HILDA Survey and in the LDS. This approach can determine what regional attributes influence the location decision of different individuals. Most of the other analyses in this paper are based on simple probit models using pooled data describing decisions to move and employment probabilities.

3. Data

Two separate sources of data are proposed for analysis in this study. First, the Longitudinal administrative Data Set (LDS) is used to provide detailed information on the mobility of income support recipients. A special version of the LDS was prepared, which is a 10 per cent sample of the total population of income support recipients. A disadvantage of these data is the lack of individual and household characteristics that might help explain the observed mobility. In addition, individuals are only observed for as long as they are on income support.

The second data set we use is the Household, Income and Labour Dynamics in Australia (HILDA) Survey, which is a sample from the general Australian population, where respondents have been followed for 5 years so far. The HILDA data contain both individuals in and out of income support, and we can observe individuals moving on and off income support. The advantage is that we can compare the mobility of income support recipients to that of other groups and observe whether location changes coincide with individuals moving into employment. A disadvantage is that the sample size is much smaller.

These two data sources can be complemented with information from other sources by using the postcode information to derive an indicator for sub-regions which can then be linked to, for example, regional unemployment rate information from the Australian Bureau of Statistics (ABS) or housing price information from Australian Property Monitors.

Table 1 provides an overview of unemployment rates by year and Major Statistical Region; that is, by State while distinguishing metropolitan and non-metropolitan areas for all States except Tasmania and the Territories. The table shows clearly that unemployment rates have decreased considerably over recent years. However, there are major differences between the different regions, and the development of unemployment over time has been quite different across these regions. Although usually unemployment is higher in non-metropolitan areas than in the capital cities, this is not always the case (see for example, Perth versus the balance of Western Australia). The unemployment rate varied between 10.55 per cent for Tasmania in 1997 to 3.62 per cent in the A.C.T. in 2005. The analyses in Section 5 use unemployment rates by Statistical Region, which is a more detailed regional disaggregation.

Australian Property Monitors collect information on housing prices and sell this information in a range of formats on request. They have provided us with median house and unit prices by postcode per year, indicating the number of sales on which the median price is based. This information can supplement the housing cost information available from the LDS (and

HILDA) using the postcode variable to link the median housing price information to the individuals in the two data sets.

Table 1: Average unemployment rates (in %) by Major Statistical Regions, 1995 to 2005

Region	Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sydney	6.32	5.88	5.76	5.70	4.70	4.39	5.06	5.28	5.19	4.68	4.47
Balance N.S.W	8.75	9.61	10.23	9.55	8.71	7.27	7.45	7.54	6.94	6.42	6.53
Melbourne	9.26	9.02	8.64	7.67	6.88	5.93	6.46	5.95	5.72	5.40	5.26
Balance Vic	8.90	8.94	9.64	8.89	7.89	7.04	6.77	6.48	5.59	6.98	6.56
Brisbane	8.49	9.23	9.07	7.97	7.85	7.05	8.29	7.28	6.41	5.49	4.92
Balance Qld	9.78	9.66	10.00	8.91	7.73	7.96	8.51	7.87	7.32	5.93	5.13
Perth	7.70	7.75	7.17	7.00	6.89	5.88	6.71	6.16	6.06	4.85	4.46
Balance W.A	6.46	7.00	6.67	6.30	5.58	5.95	6.89	6.19	5.47	5.13	4.97
Adelaide	10.44	10.20	10.00	9.48	8.27	7.74	7.45	6.79	6.60	6.23	5.67
Balance S.A	7.64	7.98	8.69	9.86	8.46	7.43	7.11	6.78	5.99	5.42	3.81
Tasmania	9.72	9.99	10.55	10.17	9.29	8.70	8.90	8.76	7.87	6.54	5.94
A.C.T	6.82	7.67	7.70	6.85	6.44	5.40	5.49	5.07	4.60	3.99	3.62
N.T	7.30	5.92	5.28	4.62	3.87	4.96	6.85	5.54	5.95	6.02	5.42

Source: Labour Force, Australia, Detailed (Table 16: Labour Force Status by Region), ABS Cat. No. 6291.0.55.001

Table 2 provides an overview of the average median housing prices by year and Major Statistical Region. The table shows that prices vary considerably, but as expected, prices in metropolitan areas are higher than prices outside the metropolitan areas. The weighted average median prices are used in the multivariate analyses in this paper. The information for Tasmania and the Northern Territory is not available for the earlier years; that is, before 2003 for Tasmania and before 1998 for the Northern Territory.

Table 2: Average house and unit prices by Major Statistical Region, 1995 to 2005

Region	Year					
	<i>Average House Prices</i>					
	1995	1996	1997	1998	1999	2000
Sydney	\$229,260	\$246,172	\$279,471	\$304,406	\$342,512	\$352,521
Balance N.S.W	\$119,415	\$120,845	\$124,953	\$131,501	\$140,292	\$145,403
Melbourne	\$151,680	\$156,419	\$175,079	\$188,857	\$211,498	\$224,936
Balance Vic	\$88,033	\$88,047	\$91,439	\$96,543	\$103,301	\$109,418
Brisbane	\$135,736	\$136,712	\$142,706	\$147,801	\$153,688	\$159,959
Balance Qld	\$128,887	\$129,662	\$134,455	\$135,756	\$140,897	\$144,022
Perth	\$135,989	\$139,025	\$147,483	\$155,661	\$168,882	\$178,513
Balance W.A	\$107,345	\$112,025	\$116,871	\$121,940	\$127,071	\$131,758
Adelaide	\$117,464	\$115,951	\$120,381	\$126,930	\$135,555	\$144,768
Balance S.A	\$78,306	\$80,086	\$85,251	\$87,932	\$91,519	\$95,785
Tasmania	-	-	-	-	-	-
A.C.T	\$156,651	\$150,170	\$150,160	\$158,860	\$176,295	\$195,031
N.T	-	-	-	\$143,936	\$148,901	\$158,128

Table 2: Continued

Region	Year				
	<i>Average House Prices</i>				
	2001	2002	2003	2004	2005
Sydney	\$406,503	\$479,193	\$540,560	\$580,754	\$562,682
Balance N.S.W	\$162,402	\$194,576	\$238,518	\$268,372	\$274,854
Melbourne	\$266,709	\$304,804	\$336,611	\$352,997	\$366,478
Balance Vic	\$126,293	\$150,768	\$183,006	\$205,666	\$215,724
Brisbane	\$177,464	\$208,859	\$271,242	\$326,993	\$336,481
Balance Qld	\$156,238	\$183,803	\$219,190	\$257,392	\$292,383
Perth	\$192,041	\$214,884	\$248,100	\$282,832	\$332,125
Balance W.A	\$135,652	\$149,573	\$164,862	\$190,917	\$242,189
Adelaide	\$162,797	\$200,491	\$240,737	\$272,058	\$286,596
Balance S.A	\$104,671	\$121,841	\$150,012	\$178,385	\$197,264
Tasmania	-	-	\$138,729	\$189,474	\$208,663
A.C.T	\$234,135	\$287,630	\$360,696	\$384,324	\$383,870
N.T	\$158,436	\$184,289	\$198,938	\$216,823	\$244,587

Region	<i>Average Unit Prices</i>					
	1995	1996	1997	1998	1999	2000
Sydney	\$180,844	\$199,036	\$226,178	\$241,061	\$264,898	\$284,047
Balance N.S.W	\$118,674	\$121,309	\$124,857	\$127,845	\$139,100	\$143,772
Melbourne	\$122,382	\$126,657	\$139,840	\$152,202	\$188,449	\$208,930
Balance Vic	\$85,397	\$84,128	\$84,556	\$87,475	\$104,724	\$110,124
Brisbane	\$145,644	\$149,129	\$153,400	\$159,256	\$167,317	\$175,598
Balance Qld	\$147,767	\$155,327	\$156,670	\$162,744	\$169,365	\$162,005
Perth	\$97,770	\$107,554	\$103,184	\$108,730	\$108,643	\$108,924
Balance W.A	\$105,037	\$106,567	\$115,458	\$112,027	\$118,507	\$122,183
Adelaide	\$97,272	\$93,149	\$94,533	\$102,105	\$99,774	\$108,624
Balance S.A	\$53,997	\$72,071	\$64,527	\$68,099	\$77,426	\$74,878
Tasmania	-	-	-	-	-	-
A.C.T	\$131,428	\$130,340	\$132,542	\$132,410	\$142,402	\$152,107
N.T	-	-	-	\$135,584	\$150,865	\$151,328

Region	<i>Average Unit Prices</i>				
	2001	2002	2003	2004	2005
Sydney	\$319,015	\$364,244	\$394,222	\$405,249	\$406,704
Balance N.S.W	\$154,193	\$183,679	\$229,082	\$262,583	\$262,075
Melbourne	\$251,431	\$281,948	\$294,362	\$288,952	\$295,183
Balance Vic	\$123,004	\$146,227	\$182,267	\$204,941	\$196,424
Brisbane	\$179,689	\$197,303	\$222,903	\$265,008	\$280,162
Balance Qld	\$165,774	\$195,121	\$231,345	\$274,142	\$289,801
Perth	\$119,275	\$142,131	\$175,242	\$186,627	\$228,753
Balance W.A	\$126,823	\$146,766	\$162,405	\$186,829	\$219,441
Adelaide	\$117,772	\$150,162	\$176,959	\$206,263	\$214,882
Balance S.A	\$75,730	\$87,836	\$103,688	\$106,961	\$126,825
Tasmania	-	-	\$145,789	\$181,948	\$202,056
A.C.T	\$181,444	\$234,739	\$279,981	\$301,647	\$315,328
N.T	\$150,561	\$154,230	\$165,646	\$188,078	\$224,522

Source: Authors' own calculations from median house and unit prices by postcode and year from the Australian Property Monitors

3.1 The LDS

The LDS survey used in this report is a representative 10 per cent sample of the Australian income support population. This allows us to examine this population in isolation and to examine whether recipients of different types of benefits behave differently.

Table 3 presents summary statistics for the population of income support recipients by year. Only a limited number of characteristics are observed in the LDS. Although most characteristics do not change much over time, a few trends appear. The proportion of women has increased over time and the income support recipient population has become older on average. The proportion of English-speaking migrants has decreased somewhat and the proportion of income support recipients from Aboriginal or Torres Strait Islander descent has increased. Each year the 10 per cent sample contains around 300,000 individuals. The numbers have gone up and down over time, but since 2001 the number of recipients appears to be decreasing steadily.

Table 3: Average characteristics of income support recipients in LDS, by year

	Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Female	0.509	0.514	0.517	0.524	0.527	0.531	0.531	0.538	0.544	0.554	0.558
Single	-	-	-	-	-	-	-	0.385	0.381	0.377	0.377
Age in years	37.50	37.74	38.08	38.24	38.45	38.92	39.04	39.38	39.67	39.91	39.98
Child aged:											
0-12 years	0.282	0.290	0.292	0.292	0.299	0.297	0.294	0.288	0.287	0.285	0.287
13-15 years	0.084	0.086	0.087	0.089	0.092	0.092	0.091	0.090	0.092	0.095	0.097
16-24 years	0.002	0.002	0.010	0.027	0.028	0.023	0.009	0.011	0.010	0.010	0.010
Migrant											
non-English	0.187	0.186	0.185	0.185	0.186	0.185	0.183	0.183	0.184	0.185	0.185
English	0.089	0.089	0.089	0.087	0.086	0.085	0.084	0.083	0.081	0.079	0.076
ATSI	0.036	0.036	0.038	0.040	0.042	0.047	0.048	0.049	0.052	0.054	0.058
NSW	0.326	0.321	0.321	0.318	0.314	0.310	0.311	0.313	0.315	0.317	0.321
VIC	0.242	0.240	0.237	0.237	0.237	0.234	0.229	0.230	0.232	0.234	0.235
QLD	0.195	0.200	0.204	0.206	0.207	0.212	0.215	0.213	0.213	0.211	0.208
SA	0.088	0.089	0.088	0.088	0.088	0.088	0.087	0.086	0.085	0.084	0.085
WA	0.091	0.092	0.091	0.091	0.095	0.097	0.099	0.099	0.096	0.094	0.091
TAS	0.032	0.032	0.033	0.034	0.034	0.033	0.033	0.033	0.033	0.034	0.033
NT	0.012	0.012	0.012	0.012	0.012	0.014	0.014	0.014	0.014	0.015	0.015
ACT	0.013	0.013	0.013	0.013	0.013	0.012	0.012	0.012	0.012	0.011	0.011
Number of individuals	311,235	319,675	316,143	311,300	311,536	307,166	311,750	306,794	298,566	293,023	285,180

Note: Characteristics are measured in the first fortnight a person is observed in each year. Data on marital status is not available in LDS prior to 2002; hence, proportions of persons who are 'single' are only presented from 2002 onwards.

The large sample size allows us to analyse the group of income support recipients separately and to distinguish recipients of different types of payments. We are interested in potential differences in mobility between different types of income support recipients. Therefore, we

next present Table 4 which summarises the characteristics of income support recipients by year and by their mobility. Mobility is measured as having moved from one postcode to another at least once in the preceding year.

Table 4: Average characteristics for movers and non-movers in LDS, by year

	Year											
	1995		1996		1997		1998		1999		2000	
	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers
Female	0.491	0.513	0.495	0.519	0.500	0.521	0.503	0.529	0.511	0.531	0.511	0.535
Single												
Age in years	31.38	38.96	31.56	39.25	31.82	39.53	32.04	39.71	32.75	39.76	33.09	40.15
Child aged:												
0-12 years	0.257	0.288	0.269	0.295	0.280	0.295	0.289	0.293	0.301	0.299	0.299	0.297
13-15 years	0.048	0.092	0.050	0.095	0.053	0.095	0.055	0.097	0.061	0.099	0.060	0.098
16-24 years	0.000	0.002	0.001	0.003	0.003	0.011	0.012	0.030	0.014	0.032	0.011	0.025
Migrant:												
non-English	0.141	0.198	0.140	0.197	0.134	0.196	0.132	0.198	0.135	0.197	0.135	0.195
English	0.092	0.089	0.089	0.089	0.088	0.089	0.086	0.087	0.085	0.086	0.083	0.085
ATSI	0.063	0.030	0.062	0.030	0.066	0.032	0.073	0.033	0.074	0.035	0.078	0.040
NSW	0.302	0.331	0.294	0.328	0.295	0.327	0.288	0.325	0.284	0.320	0.280	0.316
VIC	0.207	0.250	0.203	0.249	0.196	0.246	0.204	0.245	0.207	0.244	0.201	0.241
QLD	0.235	0.185	0.252	0.188	0.258	0.192	0.253	0.195	0.251	0.197	0.256	0.202
SA	0.088	0.088	0.085	0.090	0.084	0.089	0.084	0.089	0.085	0.088	0.087	0.088
WA	0.104	0.088	0.101	0.090	0.100	0.089	0.100	0.089	0.107	0.092	0.110	0.094
TAS	0.029	0.033	0.030	0.032	0.032	0.033	0.034	0.034	0.032	0.034	0.032	0.033
NT	0.018	0.011	0.018	0.010	0.019	0.011	0.022	0.010	0.019	0.011	0.020	0.012
ACT	0.017	0.012	0.017	0.012	0.016	0.013	0.015	0.013	0.014	0.013	0.013	0.012
Number of individuals	59,845	251,390	62,920	256,755	59,474	256,669	59,553	251,747	58,372	253,164	53,288	253,878

	2001		2002		2003		2004		2005	
	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers	Movers	Non-movers
Female	0.509	0.535	0.520	0.542	0.532	0.547	0.538	0.557	0.544	0.560
Single			0.471	0.368	0.466	0.364	0.463	0.361	0.454	0.362
Age in years	33.29	40.24	33.73	40.54	33.98	40.82	33.81	41.07	34.05	41.10
Child aged:										
0-12 years	0.295	0.294	0.291	0.287	0.294	0.285	0.300	0.283	0.301	0.284
13-15 years	0.060	0.098	0.061	0.096	0.062	0.098	0.065	0.101	0.067	0.102
16-24 years	0.006	0.010	0.007	0.012	0.006	0.011	0.006	0.011	0.006	0.011
Migrant:										
non-English	0.134	0.193	0.135	0.193	0.134	0.194	0.129	0.195	0.130	0.195
English	0.082	0.085	0.083	0.083	0.078	0.082	0.074	0.079	0.072	0.077
ATSI	0.080	0.041	0.082	0.043	0.087	0.045	0.095	0.047	0.101	0.050
NSW	0.278	0.318	0.285	0.319	0.286	0.321	0.283	0.324	0.289	0.327
VIC	0.195	0.237	0.195	0.237	0.200	0.238	0.206	0.240	0.204	0.241
QLD	0.263	0.205	0.258	0.204	0.256	0.204	0.254	0.202	0.249	0.200
SA	0.088	0.086	0.084	0.086	0.085	0.085	0.085	0.084	0.087	0.085
WA	0.111	0.096	0.112	0.096	0.106	0.094	0.107	0.092	0.103	0.089
TAS	0.031	0.033	0.032	0.033	0.033	0.033	0.032	0.034	0.033	0.033
NT	0.022	0.013	0.021	0.013	0.021	0.013	0.021	0.013	0.022	0.014
ACT	0.012	0.012	0.013	0.012	0.013	0.011	0.012	0.011	0.012	0.011
Number of individuals	54,074	257,676	52,415	254,379	49,989	248,577	46,697	246,326	45,330	239,850

Note: Data on marital status are not available in LDS prior to 2002; hence, proportions of persons who are 'single' are only presented from 2002 onwards.

The number of movers and non-movers increase and decrease at the same times, however, Table 4 shows that there appears to be a slightly larger proportion of movers when the total number of income support recipients is higher in that year. In each year, the women in the sample are slightly less likely to have moved than the men. Movers are on average younger, are less likely to have a child over 13 years of age and are more likely to be single. In the earlier years, they were less likely to have younger children as well, but this difference has disappeared in more recent years. Recipients from an Aboriginal or Torres Strait Islander background are more likely to move than other Australian-born recipients. Migrants from a non-English speaking background are less likely than other Australian-born recipients to have moved in the preceding year. Movers are less likely to live in New South Wales or Victoria and more likely to live in Queensland, Western Australia or the Northern Territory. In the earlier years, movers were also slightly more likely than the non-movers to live in the Australian Capital Territory.

Examining the number of moves per year and the average number of moves per year, Table 5 shows similar patterns to Table 4. Women clearly move less, those who do not move or move once only are more likely to be women whereas those who move 2 or more times are more likely to be men. Up to age 29 (and a lesser extent up to age 34) individuals are much more likely to move 3 times or more compared to older individuals. People with an Aboriginal or Torres Strait Islander background are more likely to move and are more likely to move numerous times than other Australians are, whereas migrants from a non-English speaking background are much less likely to move than others. Individuals who are partnered to someone who is also on income support are less likely to move, and if they move, they move less frequently. Finally, households with older children move less than families with younger children and families without children.

Table 5 also presents the mobility within each of the different payment types. Of the major payments in terms of the number of recipients, individuals on unemployment-related payments¹ and Parenting Payment Single are the most mobile. These two payment types are more likely to be received by a younger group of income support recipients, with younger people generally being more mobile. So again a multivariate analysis is required to find out whether the receipt of these types of payment is likely to have a direct effect on mobility.

¹ This category of payment includes the following payments: NewStart Allowance, Mature Age Allowance, Youth Allowance, Sickness Allowance, and Student Payments.

³ These are the recipients of NewStart Allowance, Mature Age Allowance and Youth Allowance.

Table 5: Individual characteristics by total number of moves in a year, 1995 to 2005 (%)

Characteristics	Total number of moves per year				Average number of moves	
	0	1	2	3 or more	per year	over entire period
Male	46.48	46.79	51.12	55.88	0.295	1.357
Female	53.52	53.21	48.88	44.12	0.253	1.301
Aged 15-19	7.07	10.77	16.03	20.43	0.503	2.134
Aged 20-24	11.30	19.58	23.48	24.74	0.462	1.681
Aged 25-29	10.60	16.32	17.07	17.26	0.391	1.733
Aged 30-34	11.11	13.48	12.82	12.57	0.310	1.372
Aged 35-39	11.23	10.88	9.39	8.89	0.244	1.101
Aged 40-44	10.24	8.26	6.86	6.07	0.202	0.969
Aged 45-49	8.99	6.27	4.84	4.10	0.170	0.875
Aged 50-54	9.28	5.59	4.06	2.87	0.141	0.748
Aged 55-59	11.35	5.57	3.53	2.11	0.108	0.436
Aged 60-64	8.84	3.28	1.93	0.95	0.080	0.210
Australian-born, non-ATSI	68.09	70.11	71.04	71.47	0.281	1.344
ATSI	3.85	5.97	9.95	13.70	0.561	3.715
ESB	8.48	8.67	7.91	7.33	0.260	1.223
NESB	19.57	15.25	11.10	7.50	0.174	0.877
Partner on income support	40.87	25.76	19.66	14.89	0.151	0.749
Recipient of:						
Unemployment-related benefit	43.41	53.36	61.92	69.00	0.358	1.456
Disability Support Pension	20.82	14.58	12.12	11.45	0.184	1.093
Parenting Payment Single	14.01	18.57	16.36	13.03	0.303	1.791
Parenting Payment Partnered	13.66	9.34	6.59	4.56	0.154	0.797
Other payment	8.11	4.15	3.01	1.96	0.119	0.845
Average number of children aged:						
0-12 years	0.529	0.547	0.456	0.364		
13-15 years	0.112	0.076	0.053	0.034		
16-24 years	0.015	0.008	0.005	0.002		
Average age of youngest child in years	6.17	4.82	4.22	3.80		

Notes: Figures reported in columns ‘Total number of moves per year’ are column percentages, except for the number of children in household where means are presented. The values of the individual characteristics are taken from the first fortnight persons appear in the LDS data for each year. For the column of “average number of moves over entire period”, the values of the individual characteristics are taken from the first fortnight of the first year the person appears in the LDS data (that is the person’s first appearance on the LDS in the period 1995 to 2005).

Over time, the proportion of income support recipients with at least one move in the previous year has decreased. Tables 6 and 7 show this decrease quite clearly for men and women. Examining the patterns of mobility for different types of income support recipients, we find that unemployment-related income support recipients are more mobile than other income support recipients (see Table 5). Given the steady decline in unemployment rates since 1995 (the start of the observation period), it is expected that the number of unemployment-related income support recipients decreases as well, starting from 1995. Appendix Table A.1 shows that this is indeed the case: the proportion of unemployment-related income support recipients

decreases over time whereas the proportion of Disability Support Pension recipients and Parenting Payment Single recipients has increased over time. However, in addition to this change over time, Appendix Table A.2 shows that the mobility of unemployment-related income support recipients and of Parenting Payment Single recipients has decreased over time as well. This has reinforced the overall decrease in mobility of income support recipients.

Table 6: Proportion of individuals on income support that move residence (at least once), by year and gender (%)

Year	Males	Females	All
1995	19.92	18.56	19.23
1996	20.44	18.96	19.68
1997	19.49	18.18	18.81
1998	19.98	18.36	19.13
1999	19.39	18.15	18.74
2000	18.11	16.68	17.35
2001	18.14	16.64	17.35
2002	17.75	16.51	17.08
2003	17.21	16.36	16.74
2004	16.51	15.48	15.94
2005	16.40	15.49	15.90
Entire period (1995-2000)	37.94	40.70	39.33

Table 7: Total number of moves of residence, by year and gender (in %)

Year	Total number of moves			
	0	1	2	3 or more
<i>Males</i>				
1995	80.08	12.62	4.70	2.61
1996	79.56	12.63	4.85	2.96
1997	80.51	12.35	4.45	2.69
1998	80.02	12.69	4.31	2.98
1999	80.61	12.54	4.27	2.58
2000	81.89	11.85	3.92	2.33
2001	81.86	11.75	3.97	2.42
2002	82.25	11.69	3.81	2.24
2003	82.79	11.40	3.64	2.17
2004	83.49	10.93	3.49	2.09
2005	83.60	10.86	3.47	2.07
Entire period (1995-2005)	62.06	14.64	7.70	15.60
<i>Females</i>				
1995	81.44	12.48	4.12	1.96
1996	81.04	12.58	4.22	2.17
1997	81.82	12.41	3.84	1.93
1998	81.64	12.52	3.63	2.21
1999	81.85	12.73	3.65	1.77
2000	83.32	11.80	3.29	1.59
2001	83.36	11.86	3.26	1.52
2002	83.49	11.80	3.13	1.58
2003	83.64	11.78	3.09	1.48
2004	84.52	11.12	2.93	1.43
2005	84.51	11.13	2.97	1.40
Entire period (1995-2005)	59.30	16.12	8.71	15.87

Table 7: Continued

Year	Total number of moves			
	0	1	2	3 or more
	<i>All Persons</i>			
1995	80.77	12.55	4.40	2.28
1996	80.32	12.60	4.53	2.55
1997	81.19	12.38	4.13	2.30
1998	80.87	12.60	3.95	2.58
1999	81.26	12.64	3.95	2.15
2000	82.65	11.82	3.59	1.94
2001	82.65	11.81	3.59	1.94
2002	82.92	11.75	3.45	1.89
2003	83.26	11.61	3.34	1.79
2004	84.06	11.04	3.18	1.72
2005	84.10	11.01	3.19	1.70
Entire period (1995-2005)	60.67	15.38	8.21	15.74

Note: Figures reported are proportions, which sum to 100.0 across each row.

Selecting the individuals from LDS who moved between two consecutive periods, we can count the number of individuals who move from a metropolitan area to a non-metropolitan area and vice versa. Table 8 shows that around 19 per cent of all movers who lived outside a capital city moved to a capital city. Of those who lived in a capital city, a slightly smaller proportion is expected to move to a region outside a capital city (around 18 per cent). The table also shows that, a slightly larger proportion of benefit recipients who move lived in one of the main capital cities. The flows in both directions are of similar size.

Table 8: Transitions between living in or outside capital city for income support recipients in LDS (movers only)

At start of year	At end of year		
	Lived outside capital city (or in Hobart or Darwin)	Lived in a capital city	Total individuals
Lived outside capital city (or in Hobart or Darwin)	81.24	18.76	289,569
Lived in a capital city	17.67	82.33	307,621

Selecting those individuals who move from one Statistical Region to another, we can also compute the average change in the unemployment rate going from the old to the new location. Measuring unemployment in the two locations in the same year, we find that, on average, there is a decrease in the unemployment rate of 0.10 percentage points for all movers, indicating a slight improvement of local unemployment rates for movers. Of this group of movers, 147,105 movers experienced a decrease in the local unemployment rate as a result of

the move, with an average decrease of 2.26 percentage points, while 144,323 movers experienced an increase in the local unemployment rate of 2.11 percentage points on average.

In each year between 1995 and 2005, the number of movers who experienced an increase was about the same as the number of movers who experienced a decrease in unemployment rate due to the move. One year, the number of increases was slightly higher in other years the number of decreases was slightly higher. The only exception is in 1997, when about 55.6 percent of movers experienced a decrease in the unemployment rate. In addition, a much larger average decrease for those who experienced a decrease in unemployment rate is observed in 1997 compared to the preceding years, while the average increase for those who experienced an increase is similar to those in the preceding years. Over time, the average increases and decreases have become smaller, indicating a decrease in the differences between regional unemployment rates.

3.2 The HILDA Survey

The HILDA Survey is a representative survey of the Australian population. Although those on income support are not overrepresented in the sample, there appear to be a sufficient number for separate analysis. Even restricting our analysis to those of working age (who are not studying full-time), there are 2025 individuals in wave 1, 1803 individuals in wave 2, 1676 individuals in wave 3 and 1641 individuals in wave 4 who are in receipt of income support. This means we can analyse mobility for the subgroup of income support recipients as well as the total population. To assess the representativeness of the income support recipient group in HILDA, some summary statistics can be compared between HILDA and the LDS.

Table 9 presents some summary statistics for the income support recipients in the four waves in HILDA. The characteristics of the population of income support recipients are fairly constant over the four waves. Compared to the LDS, a somewhat larger proportion of income support recipients in the HILDA are female, older and from an English-speaking migrant background. However, overall the characteristics of the two samples are fairly comparable.

Table 9: Average characteristics for income support recipients in each wave

	Wave 1	Wave 2	Wave 3	Wave 4
Female	0.574	0.572	0.585	0.602
Single	0.491	0.506	0.512	0.514
Age in years	42.08	42.87	42.61	43.21
Child aged 0 – 4 years	0.169	0.152	0.160	0.154
Child aged 5 – 14 years	0.256	0.245	0.240	0.264
Child aged 15 – 24 years	0.168	0.158	0.147	0.151

Table 9: Continued

	Wave 1	Wave 2	Wave 3	Wave 4
<i>Education</i>				
Less than year 10	0.241	0.216	0.208	0.208
Year 10-12	0.451	0.444	0.429	0.433
Trade certificate or diploma	0.245	0.267	0.293	0.281
Tertiary degree	0.062	0.073	0.070	0.080
<i>Migrant - non-English</i>				
Migrant - non-English	0.192	0.194	0.180	0.171
Migrant - English	0.095	0.104	0.102	0.106
Aboriginal	0.041	0.038	0.042	0.041
<i>NSW</i>				
NSW	0.290	0.305	0.288	0.321
<i>VIC</i>				
VIC	0.234	0.232	0.233	0.213
<i>QLD</i>				
QLD	0.219	0.221	0.225	0.205
<i>SA</i>				
SA	0.113	0.098	0.094	0.100
<i>WA</i>				
WA	0.094	0.094	0.102	0.100
<i>TAS</i>				
TAS	0.037	0.038	0.042	0.042
<i>NT</i>				
NT	0.006	0.004	0.007	0.009
<i>ACT</i>				
ACT	0.006	0.007	0.008	0.010
Number of observations	2,025	1,803	1,676	1,641

Table 10 compares income support recipients in wave 4 with those who are not on income support. This table shows that income support recipients are more likely to be female, single, older, have lower education levels, a migrant from a non-English speaking background, from an indigenous background, and more likely to live in Tasmania, South Australia and Western Australia, but less likely to live in Victoria. There is nothing to indicate that the number of dependent children varies significantly between the two populations. Generally speaking, the effects are according to expectations, whereby people with lower skills are less likely to be employed and more likely to be on income support.

Table 10: Average characteristics for income support recipients and those who are not on income support in wave 4

	Income support recipients	Non-recipients
Female	0.602	0.477
Single	0.514	0.299
Age in years	43.21	38.84
Child aged 0 – 4 years	0.154	0.156
Child aged 5 – 14 years	0.264	0.247
Child aged 15 – 24 years	0.151	0.181
<i>Education</i>		
Less than year 10	0.208	0.060
Year 10-12	0.433	0.379
Trade certificate or diploma	0.281	0.326
Tertiary degree	0.080	0.235
<i>Migrant - non-English</i>		
Migrant - non-English	0.171	0.130
<i>Migrant - English</i>		
Migrant - English	0.106	0.124
<i>Aboriginal</i>		
Aboriginal	0.041	0.012

Table 10: Continued

	Income support recipients	Non-recipients
NSW	0.321	0.328
VIC	0.213	0.256
QLD	0.205	0.196
SA	0.100	0.073
WA	0.100	0.010
TAS	0.042	0.019
NT	0.009	0.009
ACT	0.010	0.019
Number of observations	1,638	7,773

Table 11 compares the main characteristics of movers with non-movers irrespective of whether the individual was in receipt of income support. Individuals choosing to move were found to be younger, single, less likely to have children of school age, more likely to reside in Queensland and slightly less likely to be female. Conversely, migrants from a non-English speaking background and individuals residing in New South Wales appear much less likely to move. These effects are similar to those found in the LDS for income support recipients. There are no clear effects from education level.

Table 11: Average characteristics for movers and non-movers in wave 4

	Movers	Non-movers
Female	0.479	0.504
Single	0.442	0.309
Age in years	33.28	42.05
Child aged 0 – 4 years	0.188	0.145
Child aged 5 – 14 years	0.182	0.265
Child aged 15 – 24 years	0.076	0.197
<i>Education</i>		
Less than year 10	0.064	0.090
Year 10-12	0.400	0.383
Trade certificate or diploma	0.302	0.322
Tertiary degree	0.234	0.202
Migrant - non-English	0.092	0.146
Migrant - English	0.119	0.121
Aboriginal	0.023	0.016
NSW	0.293	0.334
VIC	0.232	0.252
QLD	0.270	0.182
SA	0.064	0.082
WA	0.091	0.102
TAS	0.023	0.023
NT	0.010	0.008
ACT	0.017	0.017
Number of observations	1,833	7,432

The mobility rates of individuals (moved since last wave) contingent on their income support status in the last wave are given in Table 12. Once again, the mobility rates are derived only for individuals of working age who are not engaged in full-time study. It is clear from Table 12 that benefit recipients are more likely to have moved than those who do not receive benefits. In wave 4, the two groups are much more similar but in the earlier waves there appears to be a substantial difference. The question is whether this can be explained by differences in the characteristics of the two groups or if it is due to the benefit receipt. This is explored in the multivariate analyses in Section 5.

Table 12: Mobility (percentage of movers) in wave j contingent on benefits in wave j-1

Wave j:	Benefits in last wave	No benefits in last wave
Wave 2	19.61	16.12
Wave 3	21.99	18.13
Wave 4	18.47	16.59

There is no clear pattern over time, except that for both groups the probability of moving was higher between waves 2 and 3, than between the other two subsequent waves (1 and 2, and 3 and 4). The higher mobility from 2002 to 2003 can be compared with the mobility pattern observed in the LDS. The LDS shows a steady decrease in mobility over time from 2001 onwards and is thus not consistent with the observation in HILDA. The LDS provides a longer time period and larger sample of income support recipients over which moving behaviour can be analysed. Therefore, results can be expected to be more stable over time.

The reasons for moving amongst movers also appear to be different for the two groups of benefit recipients (including the subgroup of unemployment-related benefit recipients³) and non-recipients, although the sample size is now reduced to those moving only, and it is therefore quite small. Table 13 presents a range of common reasons for moving.⁴ Only a small proportion of individuals moved to look for work, but it was higher for benefit recipients (of both unemployment-related benefits and other benefits) than for the non-recipient group, while 16.5 per cent of those previously in employment moved for job-related reasons. The main differences in the reason for moving between the group receiving income support related to unemployment and the group receiving income support for other reasons appear to be

⁴ Definitions of the reasons for moving are provided in Appendix Table A.4.

enforced moves and health-related moves, which are lower for the unemployment-related benefit recipients.

For all three groups, the most common reason to move is for improved lifestyle, which indicates that in trying to explain mobility this factor should be taken into account as much as possible (although this is likely to be difficult). For example, the safety of a neighbourhood or the facilities that are available may be much more important than the presence of jobs in the immediate vicinity or the housing prices per se. The latter factor of housing prices could of course also contain a quality factor, which is not taken into account, such as the average size of the houses in a region or the blocks of land. The next biggest reason to move is for personal or family reasons, which are again not explained by cost of living or employment opportunities. Finally, a high proportion of non-benefit recipients relocated in order to move into a more expensive residence. This proportion is lower for benefits recipients, but even they were slightly more likely to move to a more expensive property than they were to downsize.

Table 13: Reasons for moving by benefit receipt

Most common reasons for moving, 2004	Benefits	Unemployment-related benefits	No benefits
Lifestyle	40.6	38.3	50.4
Family	30.8	33.1	25.8
Enforced	18.1	13.2	10.3
Job related	2.7	2.0	16.5
Cheaper house	10.1	6.8	5.6
More expensive house	13.8	14.6	22.7
Look for work	4.8	4.6	0.6
Health	4.3	0.3	1.4
Number of observations	343	187	1,490

Table 14 presents the proportion of movers within each of the different payment types. Of the major payments in terms of the number of recipients, individuals on NewStart Allowance⁶ and Parenting Payments⁷ are the most mobile. Again, this result is similar to what is found in the LDS. These two payment types are both related to unemployment (with those on Parenting Payments often partnered to someone on NewStart Allowance). However, they are

⁶ This category of payment includes payments such as Mature Age, Youth Allowance, Sickness Allowance, and Student Payments.

⁷ This category of payment includes Partner Allowance. In the LDS, Parenting Payment Single is a separate category. However, this category is relatively small in HILDA and is therefore not distinguished from those on Partner Allowance and Parenting Payment Partnered.

also more likely to be a younger group of income support recipients, with younger people generally being more mobile. So a multivariate analysis is required to find out whether the receipt of these types of payment is likely to have a direct effect on mobility.

Table 14: Mobility by type of benefit payment

Benefit type	% Benefit recipients (2003)	Mobility rates 2003-2004 (% who moved)
NewStart, Mature Age and Youth Allowance	23.2	20.3
Mature Age Partner Allowance	1.0	-
Service Pension	3.3	6.2
Disability Support Pension ⁸	31.7	10.6
Wife Pension	1.6	-
Carer Pension	6.1	7.1
Widow Allowance	2.3	-
Special Benefit	1.8	-
Parenting Payment	27.7	14.6
None of these	5.7	-
Don't know	0.4	-
All		18.86
Number of observations		1,676

Selecting the individuals from HILDA who moved postcode between two consecutive periods, we can count the number of individuals who move from a metropolitan area to a non-metropolitan area and vice versa. Table 15 presents the results for all individuals together, and for those who were benefit recipients in the previous period and those who were not a benefit recipient in the previous period separately.

Table 15: Transitions between living in or outside of a capital city (movers only)

In the first period	In the second period		Total
	Lived outside a capital city (or in Hobart or Darwin)	Lived in a capital city	
For all individuals	%	%	
Lived outside a capital city (or in Hobart or Darwin)	80.71	19.29	1,545
Lived in a capital city	15.13	84.87	2,174
For benefit recipients			
Lived outside a capital city (or in Hobart or Darwin)	80.89	19.11	361
Lived in a capital city	22.30	77.70	278
Those not in benefit receipt			
Lived outside a capital city (or in Hobart or Darwin)	80.66	19.34	1,184
Lived in a capital city	14.08	85.92	1,896

⁸ This includes the Service Pension.

Table 15 shows that just over 19 per cent of all movers who lived outside a capital city moved to a capital city. This is the same for all groups. Of those who lived in a capital city, a smaller proportion is expected to move to a region outside a capital city (just over 15 per cent), but this proportion is substantially larger for benefit recipients at just over 22 per cent. The table also shows that, compared to the general population, a larger proportion of benefit recipients who move live outside the main capital cities. The flows in both directions are of similar size. Although the percentages are somewhat different for the LDS, the proportion moving from inside to outside of capital cities is similar to the proportion in the HILDA, with the flows in both directions being of similar size. In the LDS, in contrast with the results in Table 15, a larger proportion of benefit recipients who move live in the main capital cities.

Selecting those individuals who move from one Statistical Region to another, we can also compute the average change in the unemployment rate going from the old to the new location. Making the comparison between both unemployment rates at the same time (that is, after the move), the average increase is 0.003 percentage points for all movers. Of this group, 932 movers experienced a decrease in the local unemployment rate as a result of the move with an average decrease of 1.46 percentage points, while 899 movers experienced an increase in the local unemployment rate of 1.52 percentage points on average. Disaggregating this group by those who received benefits before the move and those who did not receive benefits, we find the following. For benefit recipients, the average increase is 0.06 percentage points, with 156 increases of on average 1.65 percentage points and 154 decreases of on average 1.54 percentage points. For those not receiving any benefits before the move there was an average decrease with 0.01 percentage points, with 743 increases of on average 1.49 percentage points and 778 decreases of on average 1.45 percentage points. So overall, there appears to be a very slight tendency to move to locations with more promising labour markets, although benefit recipients appear equally likely to move to areas with lower unemployment rates as they are to move to areas with higher unemployment rates.

4. Methodology

The main interest of this report is to understand who are most likely to move and why people move location. To determine the probability that an individual has moved since the previous year requires us to model this decision contingent on the nature of their characteristics in the year in which the move took place. Given this, panel data methods are necessary if we are to exploit both the cross-sectional and time-series aspects of our data. In the first instance, we assess the characteristics of movers, relative to non-movers, using a cross-sectional time series probit model (commonly referred to as a random effects probit or `xtprobit` in STATA). In addition, we investigate the importance of certain geographical attributes in influencing the moving decision, controlling for personal and household characteristics.

As an alternative, we also use a more structural model, building on the approach of O'Keefe (2004). She analysed the location decision and assessed how choice attributes associated with each location, such as unemployment rates, influences this decision. Typically, the significance of choice attributes is assessed using conditional logit models (which are sometimes also called multinomial or mixed logit models).

Similar to most of the literature reviewed in Section 2, the economic theory underlying the econometric approach is based on the assumption that individuals behave rationally. That is, individuals who move are assumed to be better off after the move. Of course, they can be better off in one respect and worse off in another, but overall they are expected to be better off after the move, which is translated into higher utility levels. Therefore, in modelling decisions to move house it is important to take a wide range of characteristics and as many aspects of a location into account as possible. Examples of aspects that may influence mobility decisions are: proximity of family and friends, housing costs, employment opportunities, availability of services (health and schooling), or lifestyle. Naturally, the different aspects may have varying levels of importance for different individuals; for example, employment is likely to be more important for those who are unemployed than for those who are retired or unable to work.

The remainder of this section discusses the economic model that describes the location decision. From this model, the decision to move can be derived given that movers could be defined by comparing the previous or starting-point location with the location chosen in the model; movers are those who change location. The discussion of the economic model is combined with the specification of the econometric model based on the economic model.

In the economic model, we allow for 57 Statistical Regions in Australia as defined by the ABS (see the Appendix for a list in Table A.3 and for maps). Each of these Statistical Regions can be chosen as the location of residency by an individual. Living in each of these Statistical Regions is associated with a utility level U_{ik} , for each individual i and region k , which varies across individuals. It is assumed that individuals choose the location that is associated with their highest utility level. Consequently, the probability of choosing location k equals the probability of location k delivering the highest utility. Given our concern with mobility, we are interested in these decisions over time. The probability of an individual i choosing Statistical Region k in any period, depends on the location decision made in the previous period. That is, there is a cost to moving which needs to be included in any utility assessment.

We follow O'Keefe (2004) in writing utility as a function of the individual's characteristics, regional attributes (which are dependent on the choice the individual makes) and the cost of moving. Hence, the utility derived from choosing location k in period t when the individual lived in location j in the previous period $t-1$ depends on the individual's characteristics, differences in regional attributes between locations j and k and the cost of moving:

$$V_{ijk} = \beta'(X_k - X_j) + \alpha'_k Z_i + cm_{jk} + \varepsilon_{ijk} \quad (1)$$

where X represents the Statistical Region's characteristics, such as average median house prices and unemployment rates; Z represents the individual's characteristics; c represents the cost of moving out of the previous period's Statistical Region, where m_{jk} indicates whether a move is required to live in Statistical Region k in period t ⁹; and ε_{ijk} is the error term or the unobserved random component of utility. In this specification of the model, a move is only counted if the move is between Statistical Regions; moves within a Statistical Region are not counted. Furthermore, the region's characteristics are included as differences relative to the location where the individual lived in the previous period. However, using the absolute values of each region's characteristics instead of the difference compared to the previous location gives the same result. That this is the case is shown mathematically in the next paragraph.

Under the assumption of identically and independently distributed Extreme Value error terms ε_{ijk} , the probability of choosing each location P_{ijk} can be derived in a straightforward manner,

⁹ We may include a second dummy variable, which indicates whether regions j and k are neighbouring or not. This would allow us to account for differences in the cost of moving due to differences in the distance of the move.

similar to the derivation of probabilities for any other multinomial logit model. P_{ijk} is a function of the utility levels at each of the possible locations:

$$P_{ijk} = \frac{\exp(\beta'(X_k - X_j) + \alpha'_k Z_i + cm_{jk})}{\sum_{q=1}^{57} \exp(\beta'(X_q - X_j) + \alpha'_q Z_i + cm_{jq})} \quad (2)$$

or

$$\begin{aligned} P_{ijk} &= \frac{\exp(\beta' X_k + \alpha'_k Z_i + cm_{jk}) \exp(-\beta' X_j)}{\sum_{q=1}^{57} \{\exp(\beta' X_q + \alpha'_q Z_i + cm_{jq}) \exp(-\beta' X_j)\}} \\ &= \frac{\exp(\beta' X_k + \alpha'_k Z_i + cm_{jk})}{\sum_{q=1}^{57} \exp(\beta' X_q + \alpha'_q Z_i + cm_{jq})} \times \frac{\exp(-\beta' X_j)}{\exp(-\beta' X_j)} \end{aligned} \quad (3)$$

where the last term equals 1. This shows that using choice attributes as differences from the attributes of the previous location is equivalent to using the absolute values for the choice attributes.

It is difficult to allow for many individual characteristics in this type of model, since inclusion of each additional variable requires 56 additional parameters to be estimated. For this reason, O'Keefe (2004) did not include any individual characteristics, but she estimated the model for a few subgroups separately.¹⁰ We adopt a similar approach and estimate separate models for men, women, benefit recipients, and individuals who are not on any income support. In addition, however, we interact some of the β parameters with individual characteristics such as own age, their children's ages, homeownership, marital status, labour force status and benefit receipt. This has a much smaller impact on the number of parameters to be estimated and it allows for potential differences in the importance of the effect of regional attributes on the utility derived from living in a specific location for individuals with different characteristics. In other words, preferences for locations are allowed to differ across individuals with different characteristics. Applying this to equation 1, the utility V_{ijk} can then be written as:

$$V_{ijk} = \beta Z_{1i}'(X_k - X_j) + \alpha'_k Z_{2i} + cm_{jk} + \varepsilon_{ijk} \quad (4)$$

¹⁰ She noted that inclusion of individual characteristics as estimated in a simpler model with fewer location choices did not seem to have much effect on the coefficients of the choice attributes.

where Z_{1i} are the individual characteristics which influence the effect of regional characteristics on the utility derived from living in a specific location and Z_{2i} are the individual characteristics which affect the utility of living in location k directly. The probability of choosing location k conditional on living in location j previously is then:

$$P_{ijk} = \frac{\exp(\beta' Z_{1i}(X_k - X_j) + \alpha'_k Z_{2i} + cm_{jk})}{\sum_{q=1}^{57} \exp(\beta' Z_{1i}(X_q - X_j) + \alpha'_q Z_{2i} + cm_{jq})} \quad (5)$$

5. Results

The results in this section are organised by the two research questions. The first two subsections address the question “What factors determine the migration choices of welfare recipients and the general working age population?” and the third subsection addresses the question “What are the labour market outcomes of internal migration?”.

5.1 Factors determining the migration choices of welfare recipients and the general population

5.1.1 Results based on the HILDA Survey

Tables 16 and 17 present the results for a random effects probit analysis of the probability of moving, separately for individuals on income support and those not on income support in the previous wave. In Table 18 a similar analysis is carried out for income support recipients only with additional controls included for the different types of income support. We estimate separate models for males and females on the grounds that gender based differences in household status are likely to influence the decision to move, such as being the primary or secondary earner.

Discussing males first, Table 16 presents the effect of a number of characteristics of individuals on the probability of moving, disaggregated by (i) those in receipt of some form of income support in the previous wave (column 1), (ii) those not previously receiving income support (column 2) and (iii) all working age individuals irrespective of whether or not they previously were in receipt of income support (column 3).

The results indicate that, within both the income support and non-income support populations, the probability of moving declined with age. Similarly, the presence of children, in particular when they are school-aged children, reduced the likelihood of a move within both populations. The strong effect for school-aged children is most noticeable for benefit recipients. A previous move, in particular the motivation behind the previous moving decision, influenced subsequent moving decisions in similar ways across both groups. For instance, having moved for family reasons or having been subject to an enforced move (such as an eviction) in the previous wave increased the likelihood of another move taking place in the following year. However, only individuals not on income support who previously moved to cheaper accommodation or moved for job related reasons were more likely to relocate subsequently, whereas only benefit recipients who moved in order to look for work in the previous year were more likely to change address again within twelve months. Although these results seem to contradict the finding that lifestyle represents the most important motivating

factor for moving, it is likely that lifestyle-based relocations are one off in nature. That is, once you are in the “right” place after moving for lifestyle reasons, there is no need to move again.

Table 16: Probability of moving for benefit recipients and those not on income support - Males

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Males	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Lagged values for						
Single	-0.311***	0.098	0.061	0.038	0.010	0.036
Reason for move is:						
Lifestyle	0.108	0.155	-0.068	0.064	-0.062	0.060
Family	0.388***	0.142	0.248***	0.059	0.258***	0.055
Enforced	0.773***	0.173	0.309***	0.083	0.392***	0.075
Job related	0.474	0.292	0.414***	0.066	0.408***	0.065
Cheaper house	0.015	0.220	0.257**	0.116	0.202**	0.103
More expensive house	0.299	0.248	0.048	0.096	0.090	0.090
Look for work	0.777**	0.307	0.113	0.242	0.379**	0.184
Health	0.381	0.277	0.552	0.364	0.417*	0.213
Aged 30 – 39 years	-0.323**	0.136	-0.170***	0.043	-0.195***	0.042
Aged 40 – 49 years	-0.697***	0.140	-0.465***	0.050	-0.507***	0.048
Aged 50 – 59 years	-0.956***	0.149	-0.626***	0.056	-0.684***	0.053
Aged over 60 years	-1.263***	0.191	-0.876***	0.104	-0.933***	0.086
Education level:						
Year 10-12	0.011	0.121	0.195***	0.074	0.141**	0.062
Trade certificate or diploma	0.141	0.118	0.212***	0.073	0.171***	0.062
Tertiary degree	0.017	0.185	0.250***	0.077	0.200***	0.066
Migrant - non-English	-0.123	0.135	0.001	0.054	-0.009	0.051
Migrant - English	-0.056	0.143	0.054	0.046	0.046	0.045
Aboriginal	-0.095	0.216	0.100	0.132	0.031	0.114
Child aged 0 – 4 years	-0.191	0.159	-0.007	0.046	-0.030	0.045
Child aged 5 – 14 years	-0.408***	0.138	-0.233***	0.043	-0.262***	0.042
Child aged 15 – 24 years	-0.075	0.156	-0.278***	0.056	-0.259***	0.053
Lagged values for						
Buying/owning a home	-0.355***	0.102	-0.322***	0.035	-0.331***	0.033
Renter	0.145	0.094	0.534***	0.040	0.464***	0.037
Living in:						
NSW	0.839*	0.447	0.102	0.094	-0.045	0.094
VIC	0.599	0.450	-0.229**	0.095	-0.190**	0.095
QLD	0.732	0.447	0.110	0.095	0.126	0.095
SA	0.678	0.453	-0.250**	0.104	-0.191*	0.102
WA	0.710	0.461	0.072	0.101	-0.044	0.101
TAS	0.938**	0.469	-0.163	0.132	-0.049	0.124
Benefit recipient					0.019	0.045
Constant	-0.911**	0.464	-0.693***	0.123	-0.636***	0.116
Observations	1,772		11,351		13,123	
Number of individuals	950		4,824		5,320	

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

Some other significant factors were specific to the income support recipient population; that is, an increased likelihood of moving for individuals previously located in Tasmania and a decreased likelihood of moving for singles are observed. Within the non income support

population, as educational attainment levels increased, the probability of moving increased and for individuals previously residing in Victoria and South Australia the probability of moving decreased. The final specification in column 3 of Table 16 for all men, presents an insignificant and relatively small coefficient on the benefit recipient variable, which indicates that male income support recipients were, after controlling for all other characteristics, on average no more likely to relocate.

Table 17 reports the results from the random effects probit estimated on the observed decision to move for females. The results are highly similar irrespective of whether the individual was previously in receipt of income support. As was the case with males, older females are less likely to move, as are those with children. Similar to males, females previously living in rented accommodation had a higher probability of moving while the opposite effect was observed for homeowners. Regarding the history of previous moves, irrespective of income support status, females who experienced an enforced move in the previous period as well as those who relocated for job or family related reasons were more likely to change address again within 12 months as were females who had previously moved to look for work. However, some differences were apparent; for instance, within the non-benefit population, female migrants from English speaking countries were significantly more likely to move as were women in both groups who lived in Queensland in the previous year. Females previously in receipt of income support and living in Tasmania in the previous wave were found to have a higher probability of moving relative to income support recipients residing elsewhere. The same result was found for men, which may indicate that the relatively high unemployment rates in Tasmania (see Table 1) have affected mobility choices of those who are unemployed.

Table 17: Probability of moving for benefit recipients and those not on income support – Females

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Females	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Lagged values for						
Single	0.101	0.066	0.121***	0.038	0.114***	0.033
Reason for move is:						
Lifestyle	0.184*	0.114	-0.099	0.067	-0.045	0.059
Family	0.462***	0.097	0.290***	0.058	0.323***	0.050
Enforced	0.433***	0.131	0.478***	0.090	0.447***	0.075
Job related	0.511**	0.206	0.376***	0.079	0.390***	0.074
Cheaper house	-0.047	0.183	0.118	0.118	0.066	0.100
More expensive house	0.162	0.170	-0.002	0.098	0.037	0.084
Look for work	1.174***	0.317	0.726***	0.266	0.980***	0.202
Health	-0.247	0.291	0.579	0.360	0.028	0.223

Table 17: Continued

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Females	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Aged 30 – 39 years	-0.247**	0.097	-0.266***	0.047	-0.278***	0.043
Aged 40 – 49 years	-0.343***	0.107	-0.608***	0.054	-0.570***	0.049
Aged 50 – 59 years	-0.682***	0.116	-0.876***	0.061	-0.858***	0.054
Aged over 60 years	-0.763***	0.169	-0.950***	0.094	-0.939***	0.083
Education level:						
Year 10-12	-0.116	0.085	-0.086	0.072	-0.105*	0.055
Trade certificate or diploma	-0.064	0.098	-0.018	0.074	-0.040	0.058
Tertiary degree	-0.107	0.135	-0.050	0.074	-0.069	0.060
Migrant - non-English	-0.128	0.109	-0.018	0.053	-0.032	0.049
Migrant - English	-0.011	0.110	0.164***	0.053	0.128***	0.048
Aboriginal	0.063	0.135	0.105	0.125	0.089	0.092
Child aged 0 – 4 years	0.092	0.084	0.007	0.046	0.022	0.040
Child aged 5 – 14 years	-0.240***	0.075	-0.208***	0.043	-0.226***	0.038
Child aged 15 – 24 years	-0.199**	0.092	-0.208***	0.052	-0.217***	0.046
Lagged values for						
Buying/owning a home	-0.386***	0.081	-0.295***	0.035	-0.317***	0.032
Renter	0.229***	0.070	0.533***	0.044	0.442***	0.037
Living in:						
NSW	0.458	0.330	-0.062	0.099	-0.007	0.096
VIC	0.314	0.331	-0.046	0.100	-0.022	0.097
QLD	0.555*	0.330	0.224**	0.101	0.242**	0.098
SA	0.336	0.337	-0.129	0.111	-0.084	0.105
WA	0.526	0.340	-0.051	0.108	0.015	0.104
TAS	0.709**	0.357	-0.101	0.139	0.062	0.125
Benefit recipient					0.008	0.039
Constant	-0.944***	0.350	-0.517***	0.125	-0.529***	0.114
Observations	2,862		11,534		14,396	
Number of individuals	1,510		5,016		5,759	

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 18 reports the results on the probability of moving for income support recipients, including the type of income support payment which is received in the previous period, in addition to the variables included in Tables 16 and 17. It shows significant variation in mobility rates depending on the type of income support payment previously received, even after controlling for a wide range of other variables. Specifically, NewStart recipients were found to be more likely to move than individuals on other types of payments. The effects of other variables change only marginally.

Table 18: Probability of moving including controls for type of income support (income support recipients only)

	(1) Males		(2) Females	
	Coef.	Std.error	Coef.	Std.error
Lagged values for				
Single	-0.323***	0.099	0.090	0.068
Reason for move is:				
Lifestyle	0.116	0.154	0.255**	0.110
Family	0.335**	0.140	0.434***	0.095
Enforced	0.697***	0.173	0.427***	0.131
Job related	0.510*	0.298	0.493**	0.205
Cheaper house	-0.035	0.221	-0.132	0.179
More expensive house	0.188	0.242	0.066	0.167
Look for work	0.736**	0.314	1.123***	0.316
Health	0.329	0.278	-0.279	0.288
Buying/owning a home	-0.374***	0.102	-0.376***	0.080
Renter	0.112	0.094	0.213***	0.069
Living in:				
NSW	0.786*	0.454	0.455	0.329
VIC	0.580	0.457	0.320	0.330
QLD	0.721	0.454	0.534	0.329
SA	0.617	0.460	0.336	0.336
WA	0.680	0.467	0.514	0.339
TAS	0.851*	0.476	0.689*	0.356
Receipt of				
NewStart Allowance	0.360**	0.171	0.334***	0.129
Mature Partner Allowance	-5.510	17000.00	-0.087	0.410
Disability Support Pension	0.218	0.162	0.045	0.122
Carer Pension	0.219	0.241	0.140	0.140
Special Benefit	0.185	0.414	-0.369	0.555
Parenting Payment	0.333	0.219	0.086	0.109
Wife Pension			-0.118	0.246
Widow Allowance			0.149	0.239
Aged 30 – 39 years	-0.306**	0.136	-0.197**	0.097
Aged 40 – 49 years	-0.622***	0.143	-0.289***	0.107
Aged 50 – 59 years	-0.893***	0.154	-0.586***	0.124
Aged over 60 years	-1.139***	0.198	-0.648***	0.180
Education level:				
Year 10-12	0.012	0.123	-0.113	0.084
Trade certificate/diploma	0.119	0.120	-0.088	0.098
Tertiary degree	0.055	0.186	-0.135	0.135
Migrant - non-English	-0.138	0.135	-0.117	0.106
Migrant - English	-0.080	0.146	0.002	0.109
Aboriginal	-0.089	0.221	0.065	0.133
Child aged 0 – 4 years	-0.261	0.161	0.126	0.090
Child aged 5 – 14 years	-0.416***	0.143	-0.187**	0.085
Child aged 15 – 24 years	-0.110	0.159	-0.207**	0.093
Constant	-1.156**	0.492	-1.114***	0.361
Observations		1,818		2,931
Number of individuals		980		1,553

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

5.1.2 Results based on the LDS

A larger sample of income support recipients is available in the LDS than in the HILDA. We replicate the model estimated in Table 18, using HILDA data, for as far as is possible given the available variables in the LDS. The results are presented in Table 19.

Table 19: Probability of moving for income support recipients by gender

	(1)		(2)	
	Males		Females	
	Coef.	Std.error	Coef.	Std.error
Lagged values for				
Partner on benefit	-0.144	0.006	-0.087	0.006
Aged 30 – 39 years	-0.148	0.005	-0.231	0.004
Aged 40 – 49 years	-0.296	0.006	-0.399	0.005
Aged 50 – 59 years	-0.428	0.006	-0.481	0.006
Aged over 60 years	-0.567	0.008	-0.697	0.011
Migrant - non-English	-0.026	0.005	-0.057	0.005
Migrant - English	0.075	0.007	0.072	0.006
Aboriginal	0.228	0.009	0.214	0.008
Child aged 0 – 12 years	-0.067	0.007	-0.013**	0.006
Child aged 13 – 15 years	-0.101	0.008	-0.074	0.005
Child aged 16 – 24 years	-0.091	0.020	-0.077	0.013
Lagged values for				
Buying/owning a home	-0.302	0.004	-0.353	0.004
Govt. renter	-0.388	0.007	-0.489	0.006
Other	-0.263	0.005	-0.347	0.005
Living in:				
VIC	-0.016	0.005	-0.011**	0.005
QLD	0.156	0.005	0.156	0.005
SA	0.113	0.007	0.122	0.006
WA	0.075	0.007	0.087	0.006
TAS	0.086	0.010	0.095	0.010
NT	0.228	0.014	0.201	0.014
ACT	0.117	0.016	0.113	0.015
Receipt of				
Disability Support Pension	-0.097	0.005	-0.152	0.006
Parenting Payment Single	-0.036	0.012	-0.067	0.007
Parenting Payment Partnered	-0.118	0.012	-0.178	0.007
Other benefits	-0.137	0.012	-0.176	0.008
Moved	0.465	0.004	0.395	0.004
Benefit receipt	0.216	0.006	0.189	0.007
Had earned income	-0.151	0.007	-0.144	0.005
Had unearned income	-0.164	0.008	-0.075	0.007
Partner had earned income	-0.141	0.009	-0.135	0.007
Partner had unearned income	0.003***	0.008	-0.049	0.007
Number of fortnights with earned income	-0.009	0.000	-0.006	0.000
Number of fortnights with unearned income	-0.005	0.000	-0.005	0.000
Constant	-0.852	0.007	-0.715	0.007
sigma	0.478	0.003	0.429	0.003
rho	0.186	0.002	0.155	0.002
Observations	1,229,732		1,436,763	
Number of individuals	270,555		285,691	

Note: *** not significant at 10%; ** significant at 10%; * significant at 5%; unmarked is significant at 1%

Similar to the results from HILDA, Table 19 shows significant variation in mobility rates depending on the type of income support payment previously received. Again, NewStart recipients were found to be more likely to move than individuals on other types of payments. Several of the other results are also similar to those found based on the HILDA survey. The results indicate that the probability of moving declined with age. Similarly, the presence of children, in particular when they are school-aged children, reduced the likelihood of a move. A previous move increased the likelihood of another move taking place in the following year.

Income support recipients who previously lived in privately rented accommodation (the reference category) had a higher probability of moving while the opposite effect was observed for homeowners and government renters. The effect regarding government renters could not be distinguished in the HILDA data since there were too few observations in this category. This effect seems to indicate that public housing may reduce mobility once it is obtained, possibly due to the difficulty of obtaining appropriate, affordable, housing for income support recipients. This is similar to what was found by Painter (1997) in the US.

There are some differences as well, which may to some extent be due to the small sample size of income support recipients in HILDA. Being a benefit recipient in the previous period increased the probability of a move. Being from Aboriginal or Torres Strait Islander descent increased the probability of moving whereas in HILDA the effect was negative but insignificant (possibly due to the small number of persons in this group). The State of residency appears to have some effect now as well, with similar directions and sizes of the effects for men and women. Income support recipients living in New South Wales or Victoria are the least likely to move whereas those living in the Northern Territory or Queensland are the most likely to move. The LDS analysis also contains information on earned and unearned income of the income support recipients. Both earned and unearned income, and a partner's earned income decrease the individual's mobility. The negative effect of own earned and unearned income increases with the number of fortnights that this income was received. The effect of the partner's unearned income was only negative for women, and insignificantly positive for men. Unearned income affected women to a lesser extent than earned income, but this distinction in the two types of income is not evident for men. This set of results regarding income seems to indicate that households who have no non-benefit income are more likely to move, possibly in pursuit of employment or cheaper accommodation.

5.2 Location decisions

5.2.1 Results based on the HILDA Survey

In this subsection, we apply the conditional logit approach described in Section 4 to the different subgroups in the data from HILDA. The model explains what factors influence the location decision. The model allows for a choice between 57 locations. The names of these regions are presented in Table A.3 in the Appendix together with maps indicating the boundaries of the regions. The disaggregation is most detailed in metropolitan areas where a large proportion of the Australian population resides. It is necessary to aggregate rural areas into regions of larger sizes to ensure a sufficient number of people at each location in our sample for the analysis. Additional information has been collected for each location separately. The models include unemployment rate, median house prices and median unit prices (averaged across the postcodes contained within each region). Results are presented separately for men and women, and are disaggregated by benefit reciprocity.

Table 20 presents results for men based on the choice attributes (that is, the regional characteristics) only. As expected, given that most individuals do not move, the effect of previous location (as measured by the variable for whether a move is required to be located in the region) has the largest effect and explains most of the variation. By including this variable in the model, we control for the fact that most people do not move.

Table 20: Conditional logit model results for location decisions, choice attributes only (differences are in comparison to previous location) – Males^a

	(1)		(2)	
	Limited number of attributes		All Attributes	
	Coef.	Std.error	Coef.	Std.error
Difference in unit prices ^b	0.328***	0.049	0.043	0.059
Difference in house prices ^b	-0.146***	0.025	-0.015	0.028
Unemployment rate difference	0.020	0.013	0.005	0.013
A move is required	-6.715***	0.041	-5.016***	0.056
An interregional move is required			-0.854***	0.095
An interstate move is required			-1.998***	0.111
Statistical Region is part of a capital city			-0.168***	0.048
Population size ^b			0.234***	0.021
Number of observations	774,506		774,506	
Number of individuals	5,635		5,635	
Pseudo R-squared	0.8104		0.8221	

Notes: a) * significant at 10%; ** significant at 5%; *** significant at 1%

b) prices in \$100,000 and population in 100,000 persons.

The remaining coefficients in the models show what other factors may be important. That is, if someone moves, what then determines to where they move? In the specification in the first column with a limited number of attributes, house prices have the expected negative effect,

but unit prices have a positive effect. Surprisingly, the effect of unemployment rate is also positive, although insignificant. Including more detailed information on the required distance of moving and the type of area (that is part of a capital city or not and population size), the effects of house and unit prices become much smaller and insignificant and the effect of the unemployment rate becomes even smaller and more insignificant than before. It appears the effects of house and unit prices are strongly associated with other characteristics of the region.¹¹ Having to move between Statistical Regions has a large negative effect on the probability of choosing a particular region independent of the distance of the move required. However, on top of this large effect, additional negative effects are expected if the move is between two regions located in different States or in the same State but one is in the capital city and the other is not. If the Statistical Region is part of the capital city area, it is less likely to be chosen, whereas a larger population size makes the region more likely to be chosen. We explore the effects of these choice attributes further in Tables 21 and 22, where the effects of the attributes are allowed to differ with an individual's characteristics and where separate models are estimated for benefit recipients and non-recipients.

Table 21: Conditional logit model results for location decisions by benefit receipt - Males

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Males	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Difference in unit prices/100000	-0.010	0.214	-0.019	0.104	-0.036	0.094
<i>Interacted with:</i>						
Own/buying house	0.245	0.340	0.244	0.149	0.279**	0.135
Aged over 40 years	-0.700**	0.340	-0.096	0.172	-0.224	0.151
Difference in house prices/100000	-0.110	0.122	0.015	0.047	0.008	0.043
<i>Interacted with:</i>						
Own/buying house	-0.148	0.142	-0.057	0.062	-0.078	0.057
Aged over 40 years	0.366**	0.168	0.061	0.078	0.108	0.069
Unemployment rate difference	0.002	0.089	-0.095**	0.047	-0.082**	0.042
<i>Interacted with:</i>						
Aged 30 – 39 years	0.131	0.096	0.026	0.039	0.035	0.035
Aged 40 – 49 years	0.164	0.140	0.117**	0.050	0.115**	0.047
Aged 50 – 59 years	0.116	0.097	0.130**	0.052	0.116***	0.045
Aged over 60 years	-0.173	0.147	0.229	0.142	0.021	0.108
Employed in previous year	-0.093	0.091	0.056	0.043	0.034	0.039
Unemployed in previous year	-0.063	0.109	-0.007	0.112	-0.005	0.079
On benefits in previous year					0.084	0.064
On unemp.rel. benefits last year	0.009	0.085			-0.001	0.081

¹¹ A similar change in the estimated coefficients of house and unit prices is found for women.

Table 21: Continued

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Males	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
A move is required	-3.893***	0.366	-3.842***	0.144	-3.848***	0.136
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	-0.703	0.637	-0.526**	0.210	-0.544***	0.200
Have a child aged 5 – 14 years	-0.107	0.476	-0.890***	0.227	-0.803***	0.207
Have a child aged 15 – 24 years	-0.314	0.598	-0.576**	0.284	-0.553**	0.257
Aged 30 – 39 years	-0.206	0.309	-0.013	0.112	-0.054	0.107
Aged 40 – 49 years	-1.237***	0.396	-0.587***	0.150	-0.662***	0.137
Aged 50 – 59 years	-0.638**	0.278	-0.820***	0.172	-0.755***	0.145
Aged over 60 years	-1.157**	0.498	-1.490***	0.337	-1.170***	0.274
Own/buying house	-0.894**	0.359	-1.248***	0.121	-1.195***	0.115
Single	-0.227	0.344	0.261*	0.140	0.179	0.129
A move between States or a move within State in or out of the capital city is required	-0.714*	0.417	-1.129***	0.189	-1.050***	0.173
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	1.347	0.721	0.519**	0.255	0.605**	0.237
Have a child aged 5 – 14 years	-0.060	0.632	0.583**	0.276	0.506**	0.252
Have a child aged 15 – 24 years	-1.518	1.190	-1.050**	0.478	-1.108**	0.441
Own/buying house	0.440	0.439	0.348*	0.203	0.336*	0.181
Single	0.397	0.436	-0.186	0.218	-0.037	0.193
A move between States is required	-2.248***	0.441	-1.597***	0.189	-1.700***	0.174
<i>Interacted with:</i>						
Own/buying house	-0.195	0.473	-0.474**	0.234	-0.409**	0.206
Single	-0.325	0.498	-0.272	0.236	-0.355*	0.210
The region is part of capital city	0.257	0.318	-0.130	0.160	-0.045	0.142
<i>Interacted with:</i>						
Aged 30 – 39 years	0.038	0.313	-0.256*	0.131	-0.218*	0.117
Aged 40 – 49 years	-0.071	0.467	-0.408**	0.182	-0.369**	0.165
Aged 50 – 59 years	-0.424	0.391	-0.226	0.209	-0.254	0.181
Aged over 60 years	-1.126**	0.456	0.131	0.547	-0.438	0.366
Was employed last year	-0.375	0.313	0.119	0.140	0.047	0.125
Was unemployed last year	-0.222	0.326	0.229	0.507	0.101	0.287
On benefits in previous year					0.046	0.219
On unemp.rel. benefits last year	0.099	0.265			-0.050	0.290
Size of population in region	0.086	0.100	0.204***	0.048	0.181***	0.042
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	0.047	0.230	0.097	0.072	0.093	0.068
Have a child aged 5 – 14 years	0.058	0.251	-0.012	0.072	0.009	0.070
Have a child aged 15 – 24 years	0.391	0.281	0.128	0.112	0.179*	0.105
Aged 30 – 39 years	-0.006	0.184	0.020	0.066	0.023	0.060
Aged 40 – 49 years	-0.321	0.268	0.104	0.087	0.060	0.082
Aged 50 – 59 years	0.172	0.169	-0.052	0.103	-0.013	0.087
Aged over 60 years	0.042	0.190	-0.212	0.220	-0.156	0.144
Number of observations	107,262		625,776		733,038	
Number of individuals	1,059		4,692		5,285	
Pseudo R-squared	0.8596		0.8775		0.8743	

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

The results for all men in Table 21 (column 3) show that the effects of choice attributes vary considerably for individuals with different characteristics. The median price of units in a

region has a positive effect on the probability of choosing that location for men who owned or were buying a home in the previous period. For men aged over 40 there is a non-significant negative effect. The effect of house prices is insignificant and very small, with the two individual characteristics having opposite but insignificant effects. The effect of unemployment is now negative and significant at the 5 per cent level, with the effect being closer to zero or positive for older men. Insignificant positive effects are observed for men who were employed in the previous period and men who were on benefits in the previous year. An insignificant and very small negative effect is observed for men who were unemployed or who received unemployment-related benefits in the previous year.

The coefficients of the characteristics interacted with the “move is required” variable indicate the probability of moving for individuals with a range of different characteristics. Men with children are less likely to move, especially if the children are of school age. Older men and men owning or buying their home are also less likely to move. This indicates that all these characteristics increase the cost of moving. Single men are somewhat more likely to move although this effect is insignificant. The additional negative effect of a longer-distance move is largest for the longest distance category, moving between States. The negative effect for those with younger children is not as large, relatively speaking (compared to other individuals), for the longer distance as it is for the shorter distances. Individuals appear somewhat less likely to choose a location if it is part of a capital city; this effect is strongest for those aged between 30 and 50 years. Larger population sizes make it more likely for a location to be chosen.

The results for men who are not on benefits (column 2) are quite similar to the results for all men (a majority of whom are not on benefits). The negative effect from the unemployment rate is stronger than for the overall group and this negative effect decreases with age. That is, the youngest group remains most affected by unemployment rates in their choice of location. In this group, none of the house or unit price coefficients are significant.

The group of male benefit recipients (column 1) is relatively small, and as a result, fewer effects are significant. None of the coefficients associated with the unemployment rate are significant. They are positive for younger age groups, but are less positive for men in the labour force (employed or unemployed), in particular when they were employed in the previous period. Compared to men who are not on benefits, this group is less likely to move between States but relatively more likely to move between in and outside of a capital city within the same State.

Table 22 presents results on similar models for women. The direction and relative size of the effects in the model estimated for all women grouped together (column 3) are quite close to the effects estimated for all men together. One of the exceptions is that the unemployment rate is no longer significant, although still negative. For those who were benefit recipients last year or aged over 60, the unemployment rate has a significant positive effect. None of the capital city variables are significant anymore, but women over 60 are more likely (although the effect is insignificant) to choose a capital city location than the youngest age group aged under 29.

Table 22: Conditional logit model results for location decisions by benefit receipt - Females

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Females	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Difference in unit prices/100000	-0.280	0.195	0.012	0.106	-0.082	0.091
<i>Interacted with:</i>						
Own/buying house	0.529*	0.294	0.234	0.151	0.334**	0.131
Aged over 40 years	0.084	0.273	-0.307*	0.167	-0.202	0.138
Difference in house prices/100000	-0.006	0.102	0.020	0.046	0.028	0.042
<i>Interacted with:</i>						
Own/buying house	-0.236*	0.132	-0.067	0.062	-0.114**	0.056
Aged over 40 years	0.022	0.136	0.103	0.072	0.076	0.062
Unemployment rate difference	0.091	0.063	-0.020	0.044	-0.025	0.039
<i>Interacted with:</i>						
Aged 30 – 39 years	0.024	0.075	0.004	0.043	0.004	0.037
Aged 40 – 49 years	-0.017	0.098	-0.001	0.057	-0.003	0.048
Aged 50 – 59 years	0.087	0.100	-0.078	0.061	-0.026	0.052
Aged over 60 years	-0.016	0.271	0.361***	0.106	0.273**	0.108
Employed in previous year	0.021	0.075	-0.004	0.041	-0.011	0.035
Unemployed in previous year	-0.063	0.098	0.087	0.097	-0.002	0.068
On benefits in previous year					0.165***	0.044
On unemp.rel. benefits last year	-0.058	0.078			-0.069	0.070
A move is required	-3.801***	0.318	-3.638***	0.133	-3.658***	0.125
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	0.068	0.282	-0.657***	0.190	-0.420***	0.155
Have a child aged 5 – 14 years	-0.696**	0.281	-0.895***	0.197	-0.853***	0.156
Have a child aged 15 – 24 years	-0.519	0.387	-0.417*	0.238	-0.461**	0.202
Aged 30 – 39 years	-0.702***	0.255	-0.100	0.121	-0.241**	0.110
Aged 40 – 49 years	-0.641***	0.249	-0.900***	0.148	-0.832***	0.129
Aged 50 – 59 years	-1.234***	0.293	-1.288***	0.176	-1.257***	0.147
Aged over 60 years	-1.545***	0.550	-1.615***	0.330	-1.498***	0.285
Own/buying house	-1.148***	0.286	-1.216***	0.125	-1.203***	0.113
Single	0.180	0.273	0.140	0.140	0.159	0.122
A move between States or a move within State in or out of the capital city is required	-0.454	0.362	-1.212***	0.187	-1.036***	0.165
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	-0.130	0.340	0.429*	0.238	0.268	0.192
Have a child aged 5 – 14 years	0.574*	0.341	0.444*	0.240	0.490**	0.195
Have a child aged 15 – 24 years	-0.528	0.554	-0.665*	0.355	-0.625**	0.303
Own/buying house	0.425	0.390	0.584***	0.201	0.503***	0.175
Single	-0.502	0.374	-0.066	0.223	-0.127	0.189

Table 22: Continued

	(1)		(2)		(3)	
	Received benefits in previous period		Received no benefits in previous period		All Females	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
A move between States is required	-2.596***	0.362	-1.585***	0.201	-1.830***	0.177
<i>Interacted with:</i>						
Own/buying house	0.403	0.395	-0.544**	0.235	-0.282	0.202
Single	0.396	0.413	-0.191	0.250	-0.103	0.215
The region is part of capital city	-0.077	0.221	-0.164	0.153	-0.111	0.130
<i>Interacted with:</i>						
Aged 30 – 39 years	0.273	0.272	-0.255*	0.139	-0.163	0.122
Aged 40 – 49 years	0.289	0.317	-0.443**	0.196	-0.246	0.163
Aged 50 – 59 years	0.147	0.299	-0.405*	0.228	-0.242	0.180
Aged over 60 years	0.478	0.705	0.268	0.370	0.281	0.335
Was employed last year	-0.307	0.240	0.199	0.137	0.090	0.117
Was unemployed last year	0.230	0.371	0.424	0.300	0.364	0.255
On benefits in previous year					0.099	0.150
On unemp.rel. benefits last year	0.161	0.262			-0.117	0.249
Size of population in region	0.154*	0.089	0.155***	0.049	0.158***	0.042
<i>Interacted with:</i>						
Have a child aged 0 – 4 years	0.025	0.112	0.097	0.068	0.065	0.057
Have a child aged 5 – 14 years	0.165	0.113	-0.014	0.069	0.018	0.058
Have a child aged 15 – 24 years	0.233	0.168	0.043	0.102	0.086	0.086
Aged 30 – 39 years	-0.163	0.133	0.155**	0.068	0.110**	0.060
Aged 40 – 49 years	-0.149	0.141	0.123	0.098	0.053	0.079
Aged 50 – 59 years	-0.096	0.155	0.152	0.104	0.068	0.084
Aged over 60 years	0.466*	0.278	-0.106	0.157	0.039	0.139
Number of observations	169,538		636,428		805,966	
Number of individuals	1,624		4,864		5,729	
Pseudo R-squared	0.8564		0.8857		0.8789	

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

The results for women who are not on benefits (column 2) are quite similar to the results for all women (a majority of whom are not on benefits). The insignificant negative effect from the unemployment rate is about the same as for the overall group and it decreases with age (that is, the effect becomes more positive). Thus, the youngest group remains most negatively affected by unemployment rates in their choice of location.

Similar to men, the group of female benefit recipients (column 1) is relatively small, and as a result, fewer effects are significant. The coefficient associated with the unemployment rate is now positive, but still insignificant. None of the other coefficients associated with the unemployment rate are significant. Compared to women who are not on benefits, this group is less likely to move between States but relatively more likely to move between in and outside of a capital city within the same State. This effect is similar to what is found for men. The effects of house and unit prices appear quite different for male and female income support

recipients, although most coefficients are not significant. In the next subsection these models are estimated using the LDS, allowing confirmation (or rejection) of these results.

It is perhaps not surprising that local unemployment rates have relatively little impact on the moving decision given that a majority of respondents indicated that they moved for family and lifestyle reasons. Similarly, given that a relatively small proportion of respondents indicated that they had moved in order to upgrade or downgrade their privately owned accommodation, the small housing price impact is not unexpected. The key question is what are the lifestyle-related geographically based attributes that are important for the moving decision, and do these key attributes differ according to income support status? Due to a lack of suitable data, this will remain largely unresolved in this report, although we have been able to obtain crime rate data for some of the States and we have run an analysis including this variable for the subgroup of individuals for which this information is available. This could be one of the lifestyle factors that influence individuals' location decisions. Estimating a basic model, this is only partly confirmed: we find that crime to the person has a negative effect on the probability of choosing a location, but property crime has a positive effect. The effects are similar for men and women. The results are reported in Appendix Table A.5.

5.2.2 Results based on the LDS

In this subsection, we apply the same conditional logit approach described in Section 4, and applied in the previous subsection to the HILDA, to the LDS. The same additional information for each location is used as in the previous section. That is, the models include unemployment rate, median house prices and median unit prices (averaged across the postcodes contained within each region). Results are presented separately for male and female income support recipients.

Table 23 presents results for men and women based on the choice attributes only. As in the HILDA, given that most individuals do not move, the effect of previous location (as measured by the variable for whether a move is required to be located in a particular region) has the largest effect and explains most of the variation.

The remaining coefficients in Table 23 show what other factors may be important. That is, if someone moves, what then determines to where they move? House prices have the expected negative effect for men and women, but unit prices have a positive effect. As in the HILDA, the effect of unemployment rate is positive, but now it is significant as well. Having to move between Statistical Regions has a large negative effect on the probability of choosing a particular region independent of the distance of the move required. However, on top of this

large effect, additional negative effects are expected if the move is between two regions located in different States or in the same State but one region is part of the capital city and the other is not. Compared to the results from the HILDA, the negative effect associated with an interstate move is much smaller relative to the negative effect arising from non-interstate moves. A Statistical Region being part of the capital city area does not appear to affect the probability to be chosen, whereas a larger population size makes the region more likely to be chosen. We explore the effects of these choice attributes further in Table 24, where the effects of the attributes are allowed to differ with an individual's characteristics and where separate models are estimated for men and women.

Table 23: Conditional logit model results for location decisions, choice attributes only by gender (differences are in comparison to previous location)^a

	(1) Males		(2) Females	
	Coef.	Std.error	Coef.	Std.error
Difference in unit prices ^b	0.112***	0.022	0.039*	0.022
Difference in house prices ^b	-0.133***	0.012	-0.107***	0.012
Unemployment rate difference	0.029***	0.003	0.020***	0.003
A move is required	-4.681***	0.017	-4.765***	0.016
An interregional move is required	-2.034***	0.021	-2.153***	0.021
An interstate move is required	-0.162***	0.025	-0.092***	0.026
Statistical region is part of a capital city	0.009	0.015	0.017	0.016
Population size ^b	0.106***	0.006	0.127***	0.006
Number of observations	8,574,248		9,639,907	
Number of individuals	33,928		34,140	
Pseudo R-squared	0.8387		0.8565	

Notes: a) * significant at 10%; ** significant at 5%; *** significant at 1%

b) Prices in \$100,000 and population in 100,000 persons.

The results for men in Table 24 show that the effects of choice attributes vary considerably for individuals with different characteristics. Compared to the results for income support recipients based on the HILDA data, several more coefficients are now significant. The median price of units in a region has a positive effect on the probability of choosing that location for men. For men aged over 40 and men owning or buying a home in the previous period there is a non-significant negative effect. The effect of house prices is negative, with the two individual characteristics having opposite but insignificant and small effects. These results are different from what was found in the HILDA.

The effect of unemployment is positive but small and insignificant at the 10 per cent level, and none of the interaction effects are significant. This is similar to what was found for the HILDA data, and the effects are even smaller in the LDS than they already were in the HILDA.

Table 24: Conditional logit model results for location decisions by gender

	(1)		(2)	
	Males		Females	
	Coef.	Std.error	Coef.	Std.error
Difference in unit prices/100000	0.139***	0.031	0.047	0.031
<i>Interacted with:</i>				
Own/buying house	-0.049	0.056	0.094	0.057
Aged over 40 years	-0.063	0.053	-0.109**	0.052
Difference in house prices/100000	-0.136***	0.016	-0.132***	0.017
<i>Interacted with:</i>				
Own/buying house	-0.001	0.028	-0.033	0.028
Aged over 40 years	0.031	0.027	0.081***	0.027
Unemployment rate difference	0.015	0.015	0.021	0.016
<i>Interacted with:</i>				
Aged 30 – 39 years	0.014*	0.008	-0.001	0.009
Aged 40 – 49 years	0.004	0.011	-0.001	0.011
Aged 50 – 59 years	0.022*	0.013	0.019	0.012
Aged over 60 years	-0.005	0.019	-0.028	0.031
On benefits in previous year	0.004	0.012	0.004	0.015
On unemp.rel. benefits last year	0.008	0.008	-0.028***	0.008
A move is required	-4.007***	0.026	-3.921***	0.029
<i>Interacted with:</i>				
Have a child aged 0 – 12 years	-0.070	0.063	-0.181***	0.036
Have a child aged 13 – 15 years	-0.233**	0.092	-0.289***	0.057
Have a child aged 16 – 24 years	-0.711***	0.267	0.054	0.128
Aged 30 – 39 years	-0.195***	0.033	-0.462***	0.033
Aged 40 – 49 years	-0.546***	0.041	-0.809***	0.039
Aged 50 – 59 years	-0.840***	0.048	-1.045***	0.043
Aged over 60 years	-1.110***	0.058	-1.638***	0.088
Own/buying house	-0.562***	0.041	-0.575***	0.039
Have a partner on benefits	-0.396***	0.053	-0.311***	0.039
A move between States or a move within State in or out of the capital city is required	-2.028***	0.028	-2.183***	0.033
<i>Interacted with:</i>				
Have a child aged 0 – 12 years	-0.143*	0.077	-0.068	0.045
Have a child aged 13 – 15 years	-0.038	0.120	0.095	0.074
Have a child aged 16 – 24 years	0.495	0.345	-0.377**	0.188
Own/buying house	0.136***	0.051	0.246***	0.050
Have a partner on benefits	-0.057	0.064	-0.037	0.050
A move between States is required	-0.233***	0.034	-0.176***	0.035
<i>Interacted with:</i>				
Own/buying house	0.060	0.071	0.111	0.071
Have a partner on benefits	0.198***	0.065	0.157**	0.062
The region is part of capital city	0.174***	0.066	0.116*	0.068
<i>Interacted with:</i>				
Aged 30 – 39 years	-0.133***	0.039	0.037	0.042
Aged 40 – 49 years	-0.161***	0.050	0.011	0.051
Aged 50 – 59 years	-0.342***	0.059	-0.069	0.053
Aged over 60 years	-0.290***	0.077	0.025	0.144
On benefits in previous year	-0.105**	0.053	-0.157**	0.064
On unemp.rel. benefits last year	0.034	0.037	0.135***	0.038

Table 24: Continued

	(1)		(2)	
	Males		Females	
	Coef.	Std.error	Coef.	Std.error
Size of population in region	0.103***	0.011	0.129***	0.012
<i>Interacted with:</i>				
Have a child aged 0 – 12 years	-0.014	0.021	-0.002	0.015
Have a child aged 13 – 15 years	0.060	0.040	-0.015	0.025
Have a child aged 16 – 24 years	0.201*	0.114	-0.106	0.068
Aged 30 – 39 years	-0.001	0.016	0.001	0.018
Aged 40 – 49 years	-0.003	0.022	-0.006	0.022
Aged 50 – 59 years	0.020	0.023	-0.018	0.023
Aged over 60 years	-0.040	0.032	-0.009	0.056
Number of observations	6,739,166		7,793,717	
Number of individuals	26,815		28,141	
Pseudo R-squared	0.8381		0.8593	

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

The coefficients of the characteristics interacted with the “move is required” variable indicate the probability of moving for individuals with a range of different characteristics. As in the estimation using HILDA, most of the significant coefficients are found for this range of variables. The effects are similar to those found in the HILDA, but the patterns, for example for age, appear more clearly here. Men with children are less likely to move, especially if the children are older. Older men, men owning or buying their home and men who have a partner on income support are also less likely to move. This indicates that all these characteristics increase the cost of moving. The additional negative effect of longer-distance moves is largest for the middle distance category, moving in and out of the capital city area within a State. This effect is different from what is found in the HILDA where the longest distance has the largest additional negative effect. Opposite to what is found in the HILDA, the negative effect for those with younger children is larger, relatively speaking (compared to other individuals), for the longer distance than it is for the shorter distances. Individuals are somewhat more likely to choose a location if it is part of a capital city. This effect is similar to what is found in the HILDA but now it is significant. The effect is stronger for younger individuals and weaker for those who were on benefits last year. A larger population size makes it more likely for a location to be chosen.

The last two columns in Table 24 present results on the conditional logit model for female income support recipients. The direction and relative size of the effects are quite close to the effects estimated for all men together. A few differences are observed. The price of units no longer has a positive significant effect, in fact for those aged over 40 years of age, a negative effect is observed. The effect of the unemployment rate is similar overall, but for those who

were unemployment-related benefit recipients last year, the positive effect of the unemployment rate is reduced significantly to a slightly negative value. The impact of young children (under 16 years of age) on the negative effect on the probability of choosing a location for which a move is required is more important for women than for men, with the effect of older children being relatively more important for location choices requiring moves over longer distances. The age of the individual does not appear to affect the probability of choosing a location, which is part of a capital city. Women on unemployment-related payments are more likely to choose a location within a capital city.

Comparing the results here with those obtained using the HILDA data the following is found. As for men, the additional negative effect of longer-distance moves is largest for the middle distance category of moving in and out of the capital city area within a State. This effect is different from what is found in the HILDA where the longest distance has the largest additional negative effect. Individuals are somewhat more likely to choose a location if it is part of a capital city. This effect is opposite to what is found in the HILDA and it is significant in the LDS. There are no major differences in effects by age. The effect is weaker for individuals who were on benefits last year, but not if they were recipients of unemployment-related benefits.

Using the LDS, we also estimate a basic model including the effects of reported crime rates for the location. The results for women are similar to those for the HILDA, although not significant. That is, we find that crime to the person has a negative effect on the probability of choosing a location, but property crime has a positive effect. The effects for men are both positive, but only the property crime rate is significant. The results are reported in Appendix Table A.6.

5.3 Labour market outcomes of internal migration

The second research question of this section is somewhat difficult to address. The question is whether someone first obtained employment and as a result had to move or whether someone first moved and as a result obtained employment. Fortunately, however, HILDA allows us to distinguish between individuals who moved to “start work with a new employer” and those who moved to “look for work” or for other reasons. This will enable us to identify individuals who obtained employment as a direct result of the move rather than the other way around. We could interpret the variable that affects labour market outcomes to be a willingness to move rather than the move itself, in which case the order of finding employment and moving would be less important. However, we would not be able to observe those with a willingness to

move conditional on finding employment, but who so far have not been successful in their search. Our inability to observe this willingness to move for all individuals precludes us from using this variable in the analysis. Therefore, we exclude movers who move to start work with a new employer from the analysis and model the effect of moving on the probability of employment in the subsequent period for the remaining benefit recipients.

When using the LDS we can compare those who moved location to those who remained at the same location, and compare their rate of moving off income support, although we will not know what the reason is for moving off income support (that is, whether they obtained employment or not). As an alternative, we therefore examine the probability of having earned income (or being employed while remaining on income support).

This research question starts from the assumption that location matters for labour market outcomes. This assumption was checked by running a regression of the probability of employment on a wide range of independent variables, including State of residency indicators and local unemployment rates. Both State of residency and local unemployment rates affected the probability of employment, indicating that location may matter for employment outcomes.

5.3.1 Results based on the HILDA Survey

We assess the extent to which a relocation in the previous period affects the probability of entering employment for individuals who received benefits in the previous period and were not in employment. Local unemployment rates have been incorporated in the models to account for the nature of local labour market demand. The results of the regression for movements into employment (full time or part time) are reported in Table 25.

Perhaps not surprisingly, given that the descriptive statistics in Table 13 in Section 3 indicate that the majority of movers relocated for non-employment related motives, there is no evidence that the benefit recipients who relocated were more likely to enter employment¹². When we estimate the regressions separately for transitions into full- and part-time employment, the models are not statistically significant; however, the reductions in sample size are likely to be the cause of this.

¹² This also holds when we estimate the more basic specification containing a single move or no move dummy.

Table 25: Probability of transition into employment (for benefit recipients who were not working in the previous period)

	(1) Males		(2) Females	
	Coef.	Std.error	Coef.	Std.error
Lagged values for				
Single	-0.116	0.117	0.033	0.093
Reason for move is:				
Lifestyle	0.268	0.181	-0.107	0.170
Family	0.182	0.170	-0.166	0.151
Enforced	-0.013	0.226	-0.204	0.216
Job related	-0.003	0.359	0.351	0.327
Cheaper house	0.344	0.263	0.118	0.243
More expensive house	0.345	0.294	0.115	0.258
Look for work	-0.250	0.324	-0.059	0.421
Health	-0.202	0.378	0.174	0.371
Move for other reason	-0.323	0.343	0.162	0.312
Aged 30 – 39 years	-0.391**	0.157	-0.197	0.139
Aged 40 – 49 years	-0.897***	0.179	-0.320**	0.155
Aged 50 – 59 years	-1.263***	0.206	-0.755***	0.170
Aged over 60 years	-1.576***	0.283	-0.936***	0.255
Education level:				
Year 10-12	0.253	0.154	0.378***	0.132
Trade certificate or diploma	0.327**	0.156	0.603***	0.149
Tertiary degree	0.471**	0.219	0.942***	0.191
Migrant - non-English	-0.237	0.160	-0.276*	0.147
Migrant - English	-0.078	0.170	-0.146	0.158
Aboriginal	0.285	0.254	-0.429**	0.214
Child aged 0 – 4 years	-0.198	0.181	-0.319**	0.130
Child aged 5 – 14 years	-0.031	0.155	0.144	0.114
Child aged 15 – 24 years	0.176	0.175	0.169	0.124
Lagged values for				
Buying/owning a home	0.017	0.125	0.075	0.107
Renter	-0.002	0.128	0.06	0.106
Living in:				
NSW	-0.094	0.406	-0.298	0.345
VIC	-0.229	0.410	-0.281	0.347
QLD	-0.104	0.407	-0.035	0.347
SA	-0.024	0.416	-0.331	0.362
WA	-0.432	0.428	-0.49	0.368
TAS	-0.771	0.488	-0.247	0.407
NewStart Allowance	0.772***	0.120	0.695***	0.126
Local unemployment rate	-0.093***	0.035	-0.021	0.029
Constant	-0.025	0.476	-1.115***	0.428
Observations	1,566		2,221	
Number of individuals	854		1,208	

Note: * significant at 10%; ** significant at 5%; *** significant at 1%

With respect to the remaining covariates within the female equation (column 2), the usual effects are found. Exits to employment were less likely among workers aged 40 or over and individuals from Aboriginal backgrounds. However, as expected, the probability of finding employment was found to increase with education level. With respect to local labour market conditions, no impacts were apparent within the female model. Individuals in receipt of NewStart Allowance were more likely to find employment relative to the non-NewStart base

case. Given the requirement to look for work to remain eligible for unemployment-related benefits, this is to be expected. Within the male regression model (column 1), only age and education effects appear to be relevant, with the patterns similar to those in the female model. As was the case with females, individuals on NewStart are found to have higher employment probabilities. The effect of the local unemployment rate is significant within the male equation with the likelihood of finding employment lower in regions with high unemployment rates.

5.3.2 Results based on the LDS

In this subsection, we assess the extent to which a relocation in the previous period affects the probability of having some earnings from employment for individuals who received benefits in the previous period. Respondents moving off benefits are disregarded, since we do not know for what reason they exit income support. Moving has been interacted with the resulting changes in local unemployment rates in the models to account for the change in the local labour market demand facing the respondents. The results of the regression for the presence of earnings from employment for men are reported in Table 26.

Table 26 reports three different specifications. Instead of an indicator for having a partner receiving benefits in the specification in the first column, the second column uses an indicator variable for being a single person, which is only available in the LDS from 2002 onwards. Therefore, this second regression is based on fewer, more recent, observations. Having a partner on benefits increases the probability of employment for men, whereas being single decreases it. The latter effect is similar to that found in the HILDA.

The third specification is based on the first specification but adds a range of variables regarding employment, mobility and corresponding changes in local unemployment rate in the previous year. In a specification including a simple mobility indicator only, moving in the previous year decreased the probability of employment (not shown here). However, after including interactions with the change in unemployment rate and whether or not the individual was employed in the previous period, the effect of mobility becomes positive (although the effect is quite small). Those who were employed last year are also more likely to be employed this year, but if these individuals had moved during the year they would be less likely to be employed this year (possibly explaining some of the negative effect arising from mobility when not including this interaction). Moving to an area with a higher unemployment rate (at least 1 percentage point higher than the area from which they moved) reduces the probability of being employed this year. In all specifications, the significance of

the correlation of the individuals' error terms over time, rho, shows clearly that it is important to allow for individual-specific random effects.

Table 26: Probability of employment for males, based on the LDS 1995-2005 (or 2002-2005 in column 2)

	(1)		(2)		(3)	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Lagged values for						
Single			-0.089	0.011		
Partner on benefits	0.259	0.006			0.211	0.006
Aged 30 – 39 years	0.080	0.006	0.069	0.012	0.066	0.005
Aged 40 – 49 years	0.071	0.007	0.085	0.014	0.051	0.006
Aged 50 – 59 years	-0.173	0.008	-0.104	0.015	-0.150	0.007
Aged over 60 years	-0.649	0.010	-0.567	0.019	-0.564	0.009
Migrant - non-English	-0.247	0.007	-0.206	0.013	-0.158	0.006
Migrant - English	-0.082	0.010	-0.094	0.017	-0.044	0.007
Aboriginal	-0.055	0.014	0.292	0.020	-0.086	0.011
Child aged 0 – 12 years	0.148	0.007	0.357	0.013	0.125	0.006
Child aged 13 – 15 years	0.106	0.008	0.218	0.016	0.075	0.007
Child aged 16 – 24 years	0.023***	0.017	0.042***	0.040	0.016***	0.016
Lagged values for						
Buying/owning a home	0.015	0.005	0.030	0.009	0.024	0.004
Government renter	-0.085	0.010	-0.171	0.018	-0.101	0.009
Other	-0.030	0.006	0.143	0.013	-0.002***	0.005
Living in:						
VIC	0.100	0.007	0.111	0.012	0.068	0.006
QLD	0.138	0.007	0.167	0.012	0.100	0.006
SA	0.156	0.009	0.223	0.016	0.107	0.007
WA	0.179	0.010	0.200	0.017	0.121	0.008
TAS	0.231	0.014	0.280	0.025	0.157	0.011
NT	0.160	0.020	0.363	0.035	0.097	0.017
ACT	0.106	0.021	0.133	0.040	0.087	0.017
Disability Support Pension	-0.539	0.007	-0.588	0.012	-0.495	0.006
Parenting Payment Single	0.197	0.014	-0.069	0.023	0.065	0.012
Parenting Payment Partnered	-0.357	0.012	-0.345	0.024	-0.293	0.011
Other benefits	-0.320	0.014	-0.410	0.025	-0.300	0.013
Moved in last year					0.021	0.005
Move* higher unempl. rate					-0.064	0.010
Move* lower unempl. rate					-0.004***	0.010
Employed in last year					1.439	0.005
Move* employed last year					-0.651	0.012
Constant	-1.519	0.006	-1.638	0.015	-1.507	0.005
rho	0.505	0.002	0.636	0.002	0.288	0.002
Observations	1,571,527		532,072		1,570,445	
Number of individuals	342,606		203,661		342,528	

Note: *** not significant at 10%; ** significant at 10%; * significant at 5%; unmarked is significant at 1%

With respect to the remaining covariates within the male regression model (column 3), the patterns are similar to those in the previous section based on HILDA. More coefficients are significant now due to the much larger sample size. As was the case in HILDA, individuals on NewStart Allowance or other unemployment-related payments are found to have relatively high employment probabilities. In addition, those on Parenting Payment Single have even

higher employment probabilities. Income support recipients who are older (over 50 years of age), a migrant (particularly from a non-English speaking background), from Aboriginal or Torres Strait Islander descent, without children or with older children, or a government renter are less likely to be employed.

For women, a similar set of specifications as for men is reported in Table 27. It shows that having a partner on benefits (column 1) decreases the probability of employment for women, whereas being single (column 2) increases it. These effects are opposite to what is found for men.

Table 27: Probability of employment for females, based on the LDS 1995-2005 (or 2002-2005 in column 2)

	(1)		(2)		(3)	
	Coef.	Std.error	Coef.	Std.error	Coef.	Std.error
Lagged values for						
Single			0.057	0.011		
Partner on benefits	-0.169	0.007			-0.111	0.006
Aged 30 – 39 years	0.202	0.005	0.299	0.012	0.136	0.005
Aged 40 – 49 years	0.329	0.007	0.474	0.013	0.197	0.005
Aged 50 – 59 years	-0.038	0.008	-0.056	0.016	-0.091	0.006
Aged over 60 years	-0.475	0.014	-0.594	0.024	-0.416	0.012
Migrant - non-English	-0.525	0.008	-0.627	0.014	-0.294	0.005
Migrant - English	-0.121	0.010	-0.147	0.018	-0.052	0.007
Aboriginal	-0.455	0.015	-0.386	0.023	-0.298	0.010
Child aged 0 – 12 years	-0.002***	0.007	-0.065	0.013	0.009***	0.006
Child aged 13 – 15 years	0.179	0.006	0.208	0.012	0.118	0.005
Child aged 16 – 24 years	0.084	0.012	0.073	0.028	0.036	0.011
Lagged values for						
Buying/owning a home	0.015	0.005	0.025	0.009	0.039	0.004
Government renter	-0.252	0.008	-0.454	0.016	-0.226	0.007
Other	0.019	0.006	0.185	0.012	0.032	0.005
Living in:						
VIC	0.119	0.007	0.116	0.012	0.069	0.005
QLD	0.133	0.007	0.165	0.012	0.091	0.005
SA	0.214	0.010	0.251	0.016	0.126	0.007
WA	0.200	0.010	0.217	0.018	0.127	0.007
TAS	0.209	0.015	0.242	0.026	0.125	0.011
NT	0.195	0.022	0.392	0.039	0.133	0.017
ACT	0.127	0.021	0.224	0.040	0.100	0.016
Disability Support Pension	-0.755	0.009	-0.976	0.016	-0.636	0.007
Parenting Payment Single	0.251	0.008	0.410	0.015	0.088	0.007
Parenting Payment Partnered	-0.512	0.009	-0.639	0.016	-0.367	0.007
Other benefits	-0.442	0.009	-0.431	0.018	-0.369	0.008
Moved in last year					0.024	0.005
Move* higher unempl. rate					-0.131	0.010
Move* lower unempl. rate					-0.033	0.009
Employed in last year					1.634	0.004
Move* employed last year					-0.660	0.009
Constant	-1.213	0.007	-1.494	0.015	-1.288	0.005
rho	0.581	0.001	0.707	0.002	0.265	0.002
Observations	1,782,911		647,297		1,781,543	
Number of individuals	347,040		227,257		346,961	

Note: *** not significant at 10%; ** significant at 10%; * significant at 5%; unmarked is significant at 1%

In a specification including a simple mobility indicator only, moving in the previous year decreased the probability of employment (not shown here). However, as for men, after including interactions with the change in unemployment rate and the individual's employment status, the effect of mobility becomes positive (although remaining quite small). Those who were employed last year are also more likely to be employed this year, but if these individuals had moved during the year, they would be less likely to be employed this year. Moving to an area with a higher unemployment rate (at least 1 percentage point higher than the area from which they moved) reduces the probability of being employed this year. Surprisingly, moving to an area with lower unemployment rates (at least 1 percentage point lower than the area from which they moved) also reduced the probability of being employed this year, although to a lesser extent and less significantly than in the case of increasing unemployment rates. In all specifications, the significance of the correlation of the individuals' error terms over time, ρ , shows clearly that it is important to allow for individual-specific random effects.

With respect to the remaining covariates within the female equation (column 3), the usual effects are found. As was the case for men (and in HILDA), individuals on NewStart Allowance are found to have relatively high employment probabilities and those on Parenting Payment Single have even higher employment probabilities. The pattern of the probability of employment over age is somewhat different from men. Income support recipients who are older (over 50 years of age) are still less likely to be employed, but this is after an increase in the probability of employment for the group aged 40 to 49 years compared to the group aged 30 to 39 years. Income support recipients who are a migrant (particularly from a non-English speaking background), from Aboriginal or Torres Strait Islander descent, without children or with children under 12 or over 15, or a government renter are less likely to be employed. The higher probability of employment of female income support recipients with children aged 13 to 15 and the increase in probability with age up to age 50 might be associated with the requirement to look for work to remain eligible for payments when the youngest child turns 15.

6. Conclusion

The descriptive results presented within the report suggest that mobility rates, on average, tend to be higher among income support recipients relative to those not in receipt of benefits. Simple bivariate analyses suggest that, relative to non-benefit recipients, individuals on income support tend to be female, single, older, have lower education levels, and are more likely to be a migrant from a non-English speaking background or from an indigenous background. With respect to the characteristics of individuals choosing to move, the summary statistics indicate that such persons tend to be younger, single, and are less likely to be from a non-English speaking migrant background or have older (school-aged) children. The reasons given for moving are common across both the benefit and non-benefit populations, with improved lifestyle and family or personal reasons cited as principal factors in the majority of cases. Since 2001, the LDS has shown a steady decrease in mobility. This is partly due to the decrease in the proportion of unemployment-related benefit recipients amongst all income support recipients, which is reinforced by a general decrease in mobility amongst unemployment-related benefit recipients and Parenting Payment Single recipients.

Multivariate analyses revealed that certain characteristics such as a younger age, having no children (in particular not of school age), being single, having a history of moving, living in rented accommodation and not owning (or paying off) a home increased the likelihood of moving within both the benefit and non-benefit populations. In addition, the circumstances behind previous moving decisions were found to influence subsequent mobility levels. The multivariate analyses showed that, overall, after controlling for a wide range of characteristics income support recipients were no more mobile. However, a more detailed model for the income support population in isolation revealed that mobility was higher among NewStart Allowance recipients. This is confirmed by analysis of the LDS, where we find that those on unemployment-related payments are more likely to move than the recipients of other payment types. The LDS also shows that recipients with earned or unearned income are less likely to move.

Benefit recipients in the HILDA and the LDS appear to be unaffected by unemployment rates in their choice of location. Median housing prices have the expected effect (higher prices discourage individuals to locate in a region), but median unit prices (which have been collected separately from the housing prices) have the opposite effect. This result is found in both datasets, although it is not significant in all cases. The most important factor in the location decision is whether a move is required to make that choice, and the distance involved

in the required move. The necessity of a move, and particularly when the new location is further from the old location, has a negative effect on the probability of choosing that location.

Independent of the reason for moving, we found no significant effects of mobility on the probability of employment for individuals observed in the HILDA who were not employed and on benefits in the previous period. The unemployment rate has a negative effect on the probability of employment but is only significant for men. Using the LDS data, a very small positive significant effect of moving on the probability of employment can be found, when a range of interaction effects with mobility are included as well. The first interaction effect is to examine the effects of those who were employed in the previous period separately. It is found that a large negative effect from moving on the probability of employment arises when people who were employed move location. The second set of interaction effects is to differentiate between those moving to a location with higher unemployment rates and those moving to an area with lower unemployment rates (defined as areas with rates that are at least one percentage point higher or lower than the rate in the starting location). People moving to an area of higher unemployment are less likely to be employed due to the move. For other groups, there appears to be a very small positive effect. As expected, due to the requirement to look for work, individuals on NewStart Allowance are more likely to be employed after one year.

This result on the lack of effect arising from mobility is consistent with the results from the descriptive analysis, which found the following. Most people move for non-labour market related reasons and the number of benefit recipients who move to areas with lower unemployment rates is about the same as the number of benefit recipients who move to areas with higher unemployment rates.

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Appendix

Table A.1: Proportion of individuals in receipt of each benefit type, by year and gender (%)

Year	Unemployment-related benefits	Disability Support Pension	Parenting Payment Single	Parenting Payment Partnered	Other payments	Total
<i>Males</i>						
1995	72.02	21.58	1.55	2.72	2.14	100.00
1996	72.16	21.98	1.64	2.23	1.99	100.00
1997	70.73	23.29	1.85	2.35	1.78	100.00
1998	69.26	24.61	1.98	2.51	1.64	100.00
1999	68.13	25.34	2.16	2.62	1.75	100.00
2000	66.23	26.69	2.31	2.63	2.14	100.00
2001	65.05	27.02	2.50	2.92	2.52	100.00
2002	63.08	28.61	2.71	3.06	2.54	100.00
2003	60.20	30.26	2.93	3.06	3.54	100.00
2004	58.57	31.77	3.17	2.89	3.59	100.00
2005	57.23	33.05	3.24	2.61	3.88	100.00
First appearance in period (1995-2005)	80.31	12.89	1.34	2.91	2.54	100.00
<i>Females</i>						
1995	29.89	8.86	21.80	23.54	15.91	100.00
1996	30.38	9.50	21.91	23.31	14.90	100.00
1997	29.44	10.54	22.95	24.20	12.87	100.00
1998	29.12	11.63	23.90	23.37	11.99	100.00
1999	28.93	12.39	24.83	23.01	10.83	100.00
2000	27.61	13.58	25.81	22.26	10.74	100.00
2001	27.09	14.14	26.57	21.98	10.22	100.00
2002	26.70	15.26	27.12	20.83	10.08	100.00
2003	26.35	16.12	27.88	19.63	10.01	100.00
2004	26.44	17.19	28.32	17.98	10.07	100.00
2005	26.24	18.10	29.14	16.46	10.06	100.00
First appearance in period (1995-2005)	45.36	5.95	16.26	22.65	9.78	100.00
<i>All</i>						
1995	50.58	15.11	11.86	13.32	9.15	100.00
1996	50.69	15.57	12.06	13.06	8.62	100.00
1997	49.38	16.70	12.76	13.65	7.51	100.00
1998	48.24	17.81	13.46	13.43	7.06	100.00
1999	47.46	18.51	14.12	13.37	6.54	100.00
2000	45.72	19.73	14.79	13.05	6.71	100.00
2001	44.90	20.18	15.27	13.04	6.61	100.00
2002	43.50	21.43	15.85	12.62	6.60	100.00
2003	41.78	22.57	16.51	12.08	7.06	100.00
2004	40.77	23.69	17.10	11.25	7.18	100.00
2005	39.94	24.71	17.68	10.33	7.33	100.00
First appearance in period (1995-2005)	62.73	9.40	8.85	12.84	6.18	100.00

Notes: Persons are classified by benefit type using type of income support benefit received in the first fortnight they appear in the LDS data for each year. For “First appearance” row, persons are classified by benefit type using the type of income support benefit received in first fortnight of the first year they appear in the LDS data (that is, a person’s first appearance on LDS in period 1995 to 2005).

Table A.2: Proportion of individuals on income support that move residence (at least once) and the average number of moves per year, by year, gender and benefit type

Year	Males		Females		All	
	Move residence (%)	Average number moves	Move residence (%)	Average number moves	Move residence (%)	Average number moves
<i>Unemployment-related Benefits (NewStart Allowance/Youth Allowance (other)/Mature Age Allowance)</i>						
1995	22.75	0.367	26.15	0.421	23.77	0.383
1996	23.38	0.389	26.77	0.440	24.42	0.404
1997	22.32	0.365	25.62	0.413	23.34	0.380
1998	23.16	0.384	25.37	0.416	23.86	0.394
1999	22.21	0.362	23.90	0.379	22.75	0.367
2000	20.79	0.332	22.25	0.352	21.26	0.338
2001	20.82	0.335	22.15	0.349	21.25	0.339
2002	20.37	0.324	22.33	0.352	21.02	0.333
2003	20.20	0.321	21.91	0.343	20.79	0.329
2004	19.62	0.315	20.85	0.327	20.06	0.320
2005	19.58	0.315	20.32	0.318	19.85	0.316
Entire period (1995-2005)	39.16	1.439	42.78	1.486	40.48	1.456
<i>Disability Support Pension</i>						
1995	12.02	0.177	13.39	0.189	12.43	0.180
1996	12.56	0.192	13.97	0.199	13.00	0.194
1997	12.45	0.186	12.98	0.185	12.62	0.185
1998	12.41	0.186	12.71	0.184	12.51	0.185
1999	13.22	0.194	13.39	0.184	13.28	0.190
2000	12.30	0.180	12.46	0.175	12.36	0.179
2001	12.62	0.190	12.43	0.171	12.55	0.183
2002	13.07	0.197	12.29	0.174	12.77	0.188
2003	12.62	0.189	12.41	0.173	12.53	0.183
2004	12.05	0.183	11.40	0.164	11.78	0.175
2005	12.21	0.186	11.75	0.169	12.02	0.179
Entire period (1995-2005)	33.82	1.061	39.04	1.162	35.49	1.093
<i>Parenting Payment Single</i>						
1995	20.81	0.290	23.17	0.336	23.02	0.333
1996	21.98	0.338	23.89	0.354	23.76	0.353
1997	22.14	0.342	23.04	0.338	22.98	0.338
1998	22.23	0.353	23.11	0.344	23.04	0.345
1999	21.51	0.327	23.21	0.331	23.09	0.331
2000	21.00	0.322	21.42	0.299	21.38	0.301
2001	19.91	0.295	21.20	0.294	21.10	0.294
2002	18.86	0.269	20.40	0.285	20.28	0.284
2003	18.68	0.261	19.93	0.274	19.83	0.273
2004	17.72	0.250	19.08	0.260	18.97	0.259
2005	17.36	0.238	18.85	0.257	18.73	0.255
Entire period (1995-2005)	43.84	1.489	53.37	1.815	52.65	1.791

Table A.2: Continued

Year	Males		Females		All	
	Move residence (%)	Average number moves	Move residence (%)	Average number moves	Move residence (%)	Average number moves
<i>Parenting Payment Partnered</i>						
1995	12.91	0.179	12.76	0.175	12.77	0.175
1996	10.44	0.133	12.65	0.173	12.46	0.170
1997	9.10	0.115	12.33	0.164	12.06	0.160
1998	10.73	0.146	13.02	0.179	12.82	0.176
1999	9.73	0.125	12.65	0.168	12.38	0.164
2000	8.80	0.113	11.11	0.148	10.89	0.145
2001	9.01	0.117	11.06	0.145	10.85	0.142
2002	8.36	0.107	10.96	0.143	10.67	0.139
2003	8.83	0.113	11.02	0.144	10.77	0.140
2004	8.48	0.112	10.23	0.137	10.03	0.134
2005	9.01	0.119	10.59	0.143	10.41	0.140
Entire period (1995-2005)	25.12	0.600	32.50	0.822	31.67	0.797
<i>Other Income Support</i>						
1995	12.69	0.183	9.45	0.133	9.82	0.139
1996	11.01	0.169	8.88	0.123	9.11	0.128
1997	9.81	0.142	7.77	0.100	8.01	0.104
1998	10.36	0.146	7.76	0.103	8.05	0.108
1999	10.64	0.140	8.38	0.104	8.66	0.109
2000	15.85	0.236	7.85	0.098	9.05	0.118
2001	17.00	0.276	8.01	0.100	9.62	0.131
2002	15.65	0.246	8.51	0.106	9.78	0.131
2003	11.56	0.167	8.61	0.107	9.28	0.121
2004	10.63	0.144	7.56	0.095	8.25	0.106
2005	9.42	0.127	7.96	0.101	8.30	0.107
Entire period (1995-2005)	32.10	1.088	30.03	0.783	30.45	0.845

Notes: Persons are classified by benefit type using type of income support benefit received in the first fortnight they appear in the LDS data for each year. For 'Entire period' row, figures indicate whether a person moved residence at least once over the entire period and the average number of moves of residence over the entire period, whereby persons are classified by benefit type using the type of income support benefit received in the first fortnight of the first year a person appears in the LDS data (that is, the person's first appearance on LDS in the period 1995 to 2005).

Table A.3: ABS Statistical Regions

State / Territory	ABS Statistical Region number	ABS Statistical Region name
New South Wales (N.S.W)	1105	Inner Sydney <i>and</i> Inner Western Sydney
	1108	Eastern Suburbs
	1112	St George-Sutherland
	1116	Canterbury-Bankstown
	1122	Fairfield-Liverpool <i>and</i> Outer South Western Sydney
	1132	Central Western Sydney
	1136	North Western Sydney
	1144	Lower Northern Sydney
	1148	Central Northern Sydney
	1152	Northern Beaches
	1156	Gosford-Wyong
	1964	Hunter
	1970	Illawarra <i>and</i> South Eastern
	1978	Richmond-Tweed <i>and</i> Mid-North Coast
	1990	Northern <i>and</i> Far West-North Western <i>and</i> Central West
	1996	Murray-Murrumbidgee
Victoria (Vic)	2102	Outer Western Melbourne
	2106	North Western Melbourne
	2108	Inner Melbourne
	2112	North Eastern Melbourne
	2116	Inner Eastern Melbourne
	2120	Southern Melbourne
	2124	Outer Eastern Melbourne
	2126	South Eastern Melbourne
	2128	Mornington Peninsula
	2964	Barwon-Western District
	2968	Central Highlands-Wimmera
	2972	Loddon-Mallee
	2974	Goulburn-Ovens-Murray
2976	All Gippsland	
Queensland (Qld)	3104	Brisbane City Inner Ring
	3108	Brisbane City Outer Ring
	3112	South and East BSD Balance
	3116	North and West BSD Balance
	3964	South and East Moreton
	3968	North and West Moreton
	3972	Wide Bay-Burnett
	3976	Darling Downs-South West
	3980	Mackay-Fitzroy-Central West
	3984	Northern-North West
3988	Far North	
South Australia (S.A)	4104	Northern Adelaide
	4108	Western Adelaide
	4112	Eastern Adelaide
	4116	Southern Adelaide
	4964	Northern and Western SA
	4968	Southern and Eastern SA

Table A.3: Continued

State / Territory	ABS Statistical Region number	ABS Statistical Region name
Western Australia (W.A)	5104	Central Metropolitan (Perth)
	5108	East Metropolitan (Perth)
	5112	North Metropolitan (Perth)
	5116	South West Metropolitan (Perth)
	5120	South East Metropolitan (Perth)
	5964	Lower Western WA
	5968	Remainder-Balance WA
Tasmania (Tas)	6104	Tasmania
Northern Territory (N.T)	7104	Northern Territory
Australian Capital Territory (A.C.T)	8104	Australian Capital Territory
Other Territories	9104	Other Territories ^a

Source: Australian Standard Geographical Classification (ASGC), ABS Cat. No. 1216.0, July 2006

Note a: no one in the HILDA sample was from this region.

Table A.4: Definition of aggregate categories of reasons for moving in the HILDA

Aggregate categories	Includes the listed reasons:
Lifestyle	To get place of my own To live in better neighbourhood Amenities Lifestyle
Family	Neighbourhood reasons To get married Closer to friends and family Marital breakdown Whole family moved Personal / family
Enforced	Property no longer available Evicted Temporary relocation Government housing (no choice)
Job related	To start job with new employer Nearer place of work Work transfer Start own business Relocate own business Work reasons
Cheaper house	To get smaller cheaper place
More expensive house	To get larger, better place
Look for work	Look for work
Health	Health
Other	Close to place of study Moved to Australia Returned from overseas Other

Table A.5: Conditional logit model HILDA results for location decisions, choice attributes only by gender (differences are in comparison to previous location)^a

	(1) Males		(2) Females	
	Coef.	Std.error	Coef.	Std.error
Difference in unit prices ^b	-0.024	0.069	-0.016	0.070
Difference in house prices ^b	0.000	0.032	-0.014	0.032
Unemployment rate difference	-0.026	0.017	-0.007	0.018
A move is required	-5.054***	0.076	-5.191***	0.078
An interregional move is required	-0.902***	0.123	-0.835***	0.121
An interstate move is required	-1.162***	0.159	-1.210***	0.156
Statistical region is part of a capital city	-0.293***	0.070	-0.158**	0.068
Population size ^b	0.250***	0.027	0.272***	0.027
Crime to the person rate per 100,000	-0.00017***	0.000061	-0.00013**	5.88E-05
Property crime rate per 100,000	5.18E-05***	1.81E-05	4.88E-05***	1.72E-05
Number of observations	223,722		246,222	
Number of individuals	3,183		3,425	
Pseudo R-squared	0.7985		0.8182	

Notes: a) * significant at 10%; ** significant at 5%; *** significant at 1%

b) prices in \$100,000 and population in 100,000 persons.

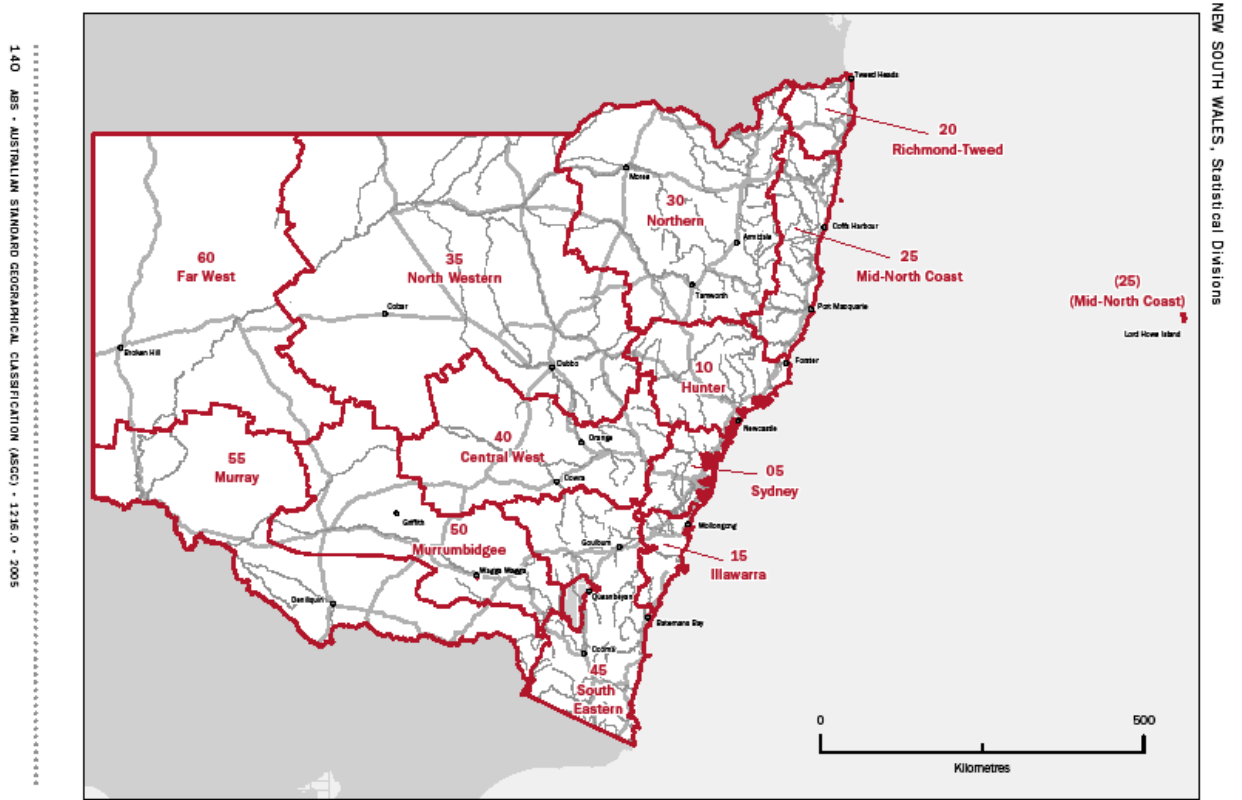
Table A.6: Conditional logit model LDS results for location decisions, choice attributes only by gender (differences are in comparison to previous location)^a

	(1) Males		(2) Females	
	Coef.	Std.error	Coef.	Std.error
Difference in unit prices ^b	-0.006	0.032	-0.065**	0.031
Difference in house prices ^b	-0.095***	0.016	-0.074***	0.016
Unemployment rate difference	0.022***	0.004	0.012***	0.004
A move is required	-4.721***	0.022	-4.784***	0.022
An interregional move is required	-1.408***	0.029	-1.518***	0.029
An interstate move is required	-0.123***	0.032	-0.106***	0.032
Statistical region is part of a capital city	-0.026	0.024	0.027	0.024
Population size ^b	0.084***	0.009	0.103***	0.009
Crime to the person rate per 100,000	1.26E-05	2.07E-05	-3.8E-05*	2.03E-05
Property crime rate per 100,000	1.75E-05***	5.87E-06	3.56E-06	5.84E-06
Number of observations	2,350,386		2,573,145	
Number of individuals	19,632		19,412	
Pseudo R-squared	0.8366		0.8495	

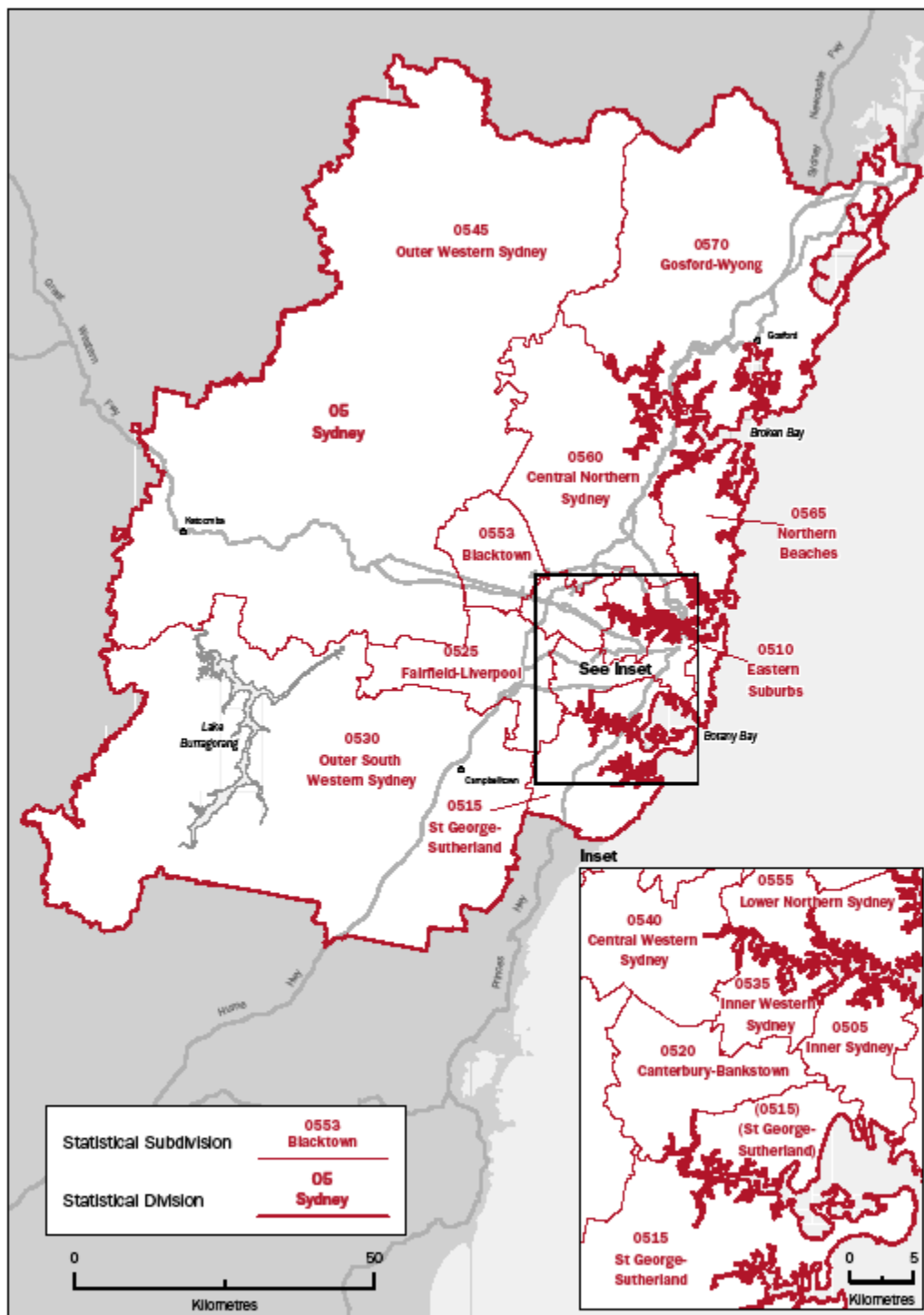
Notes: a) * significant at 10%; ** significant at 5%; *** significant at 1%

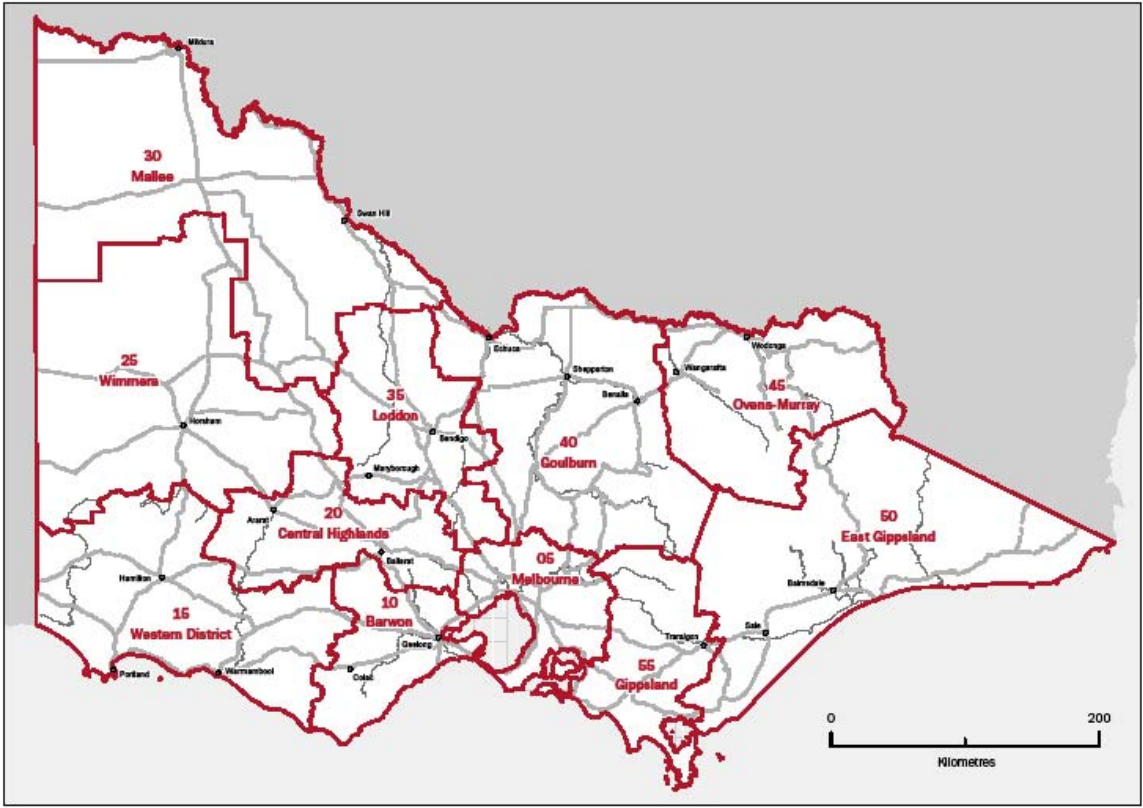
b) prices in \$100,000 and population in 100,000 persons.

Maps of the Statistical Regions used in this report (source: ABS, 2005)



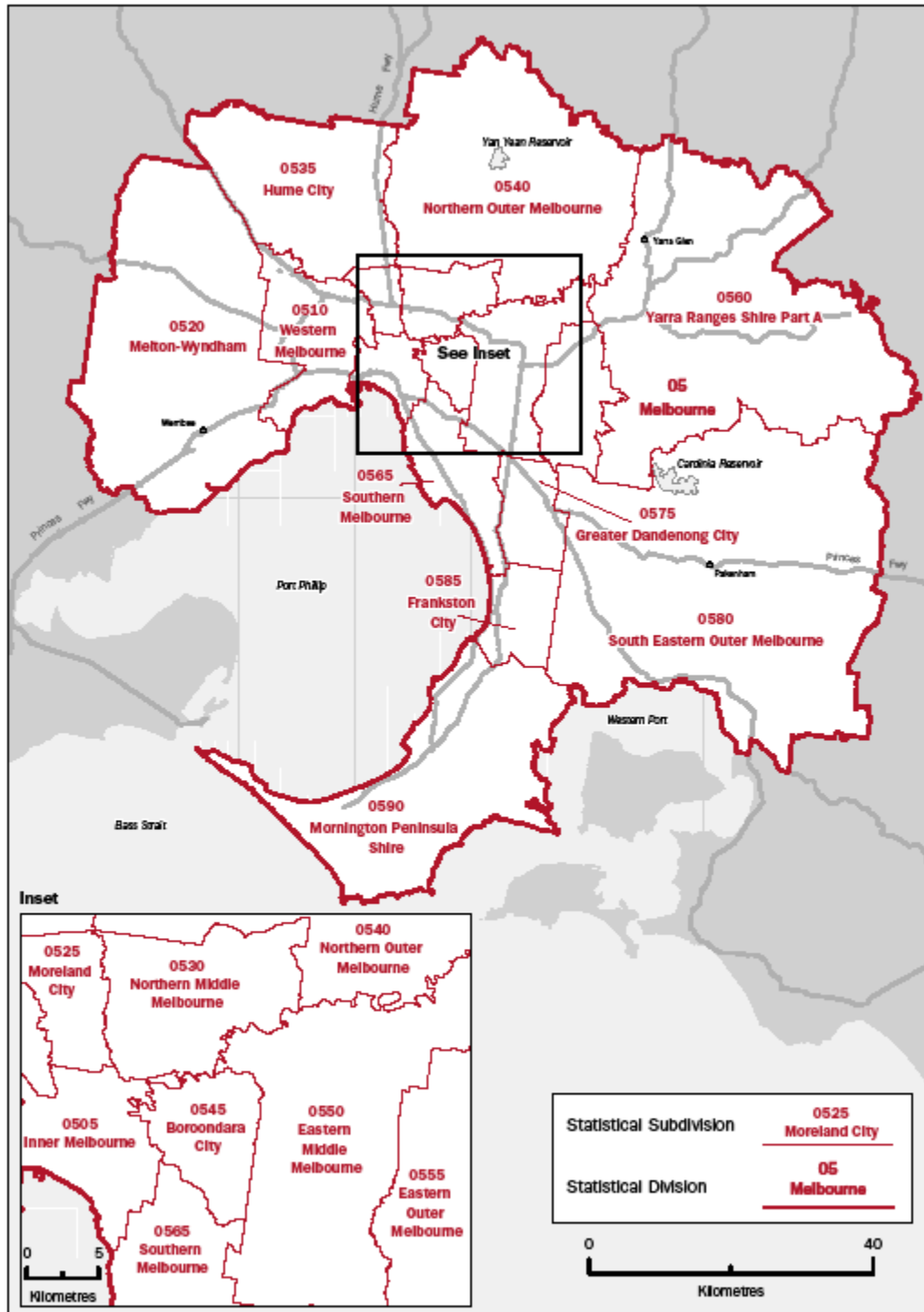
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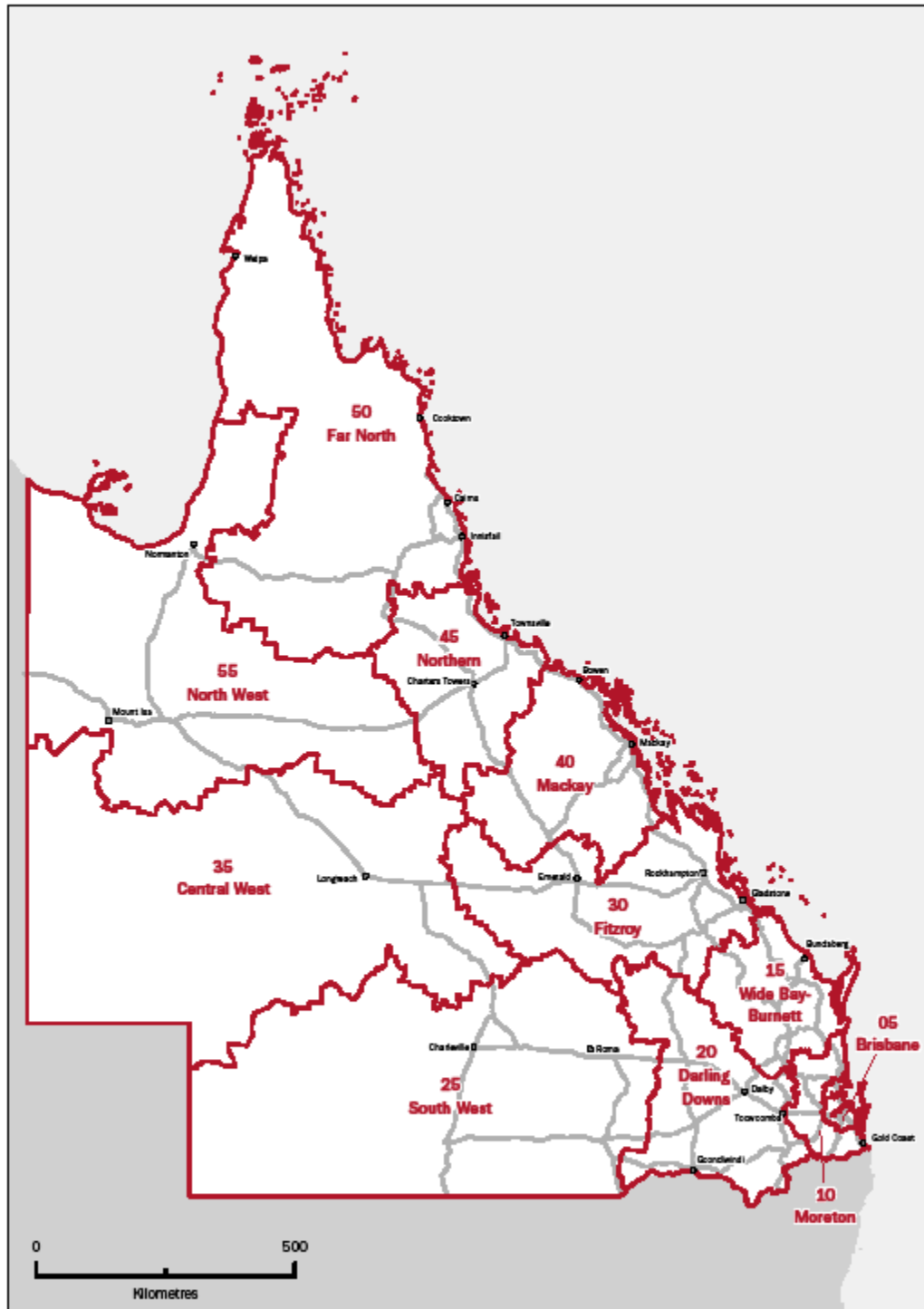


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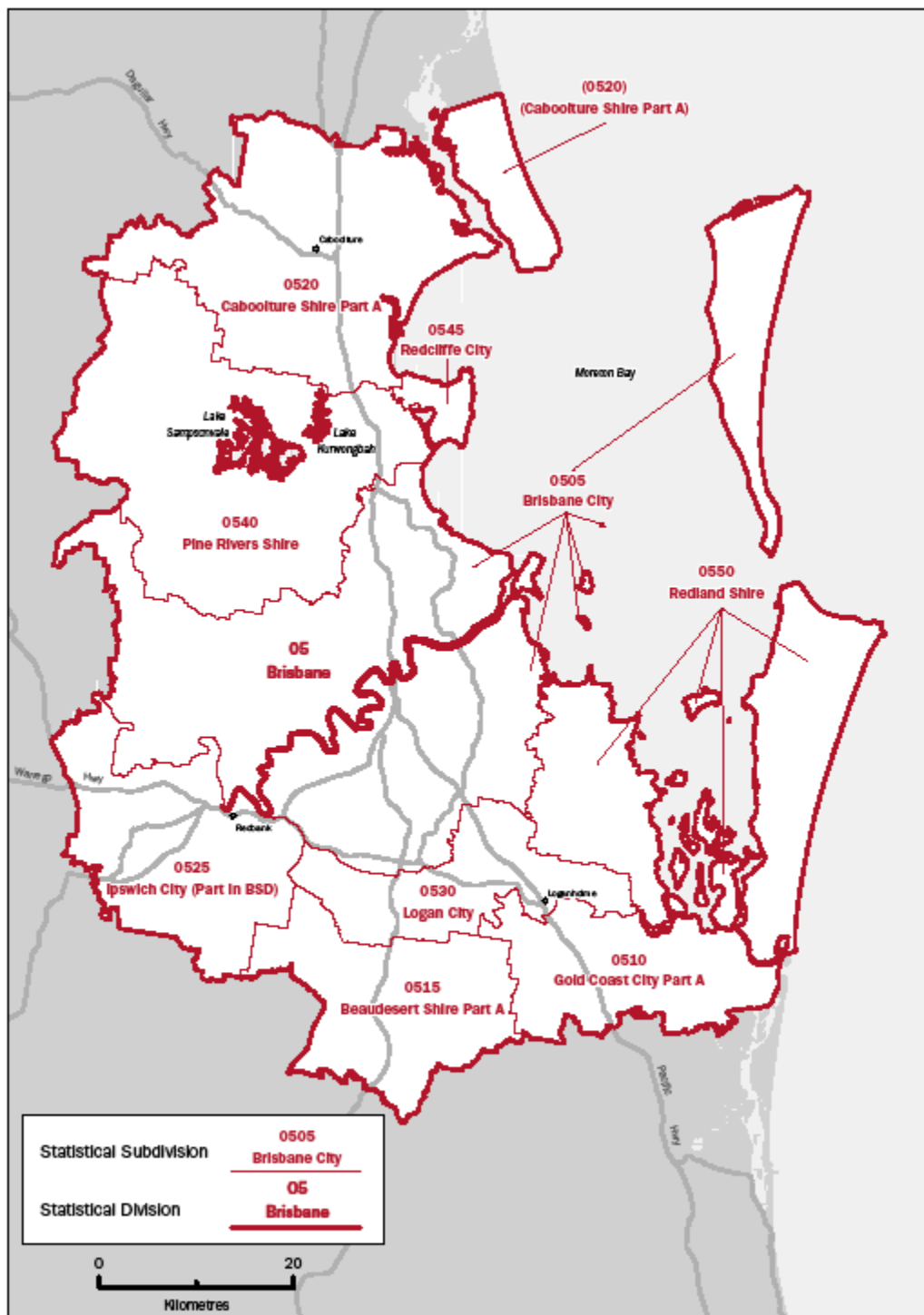
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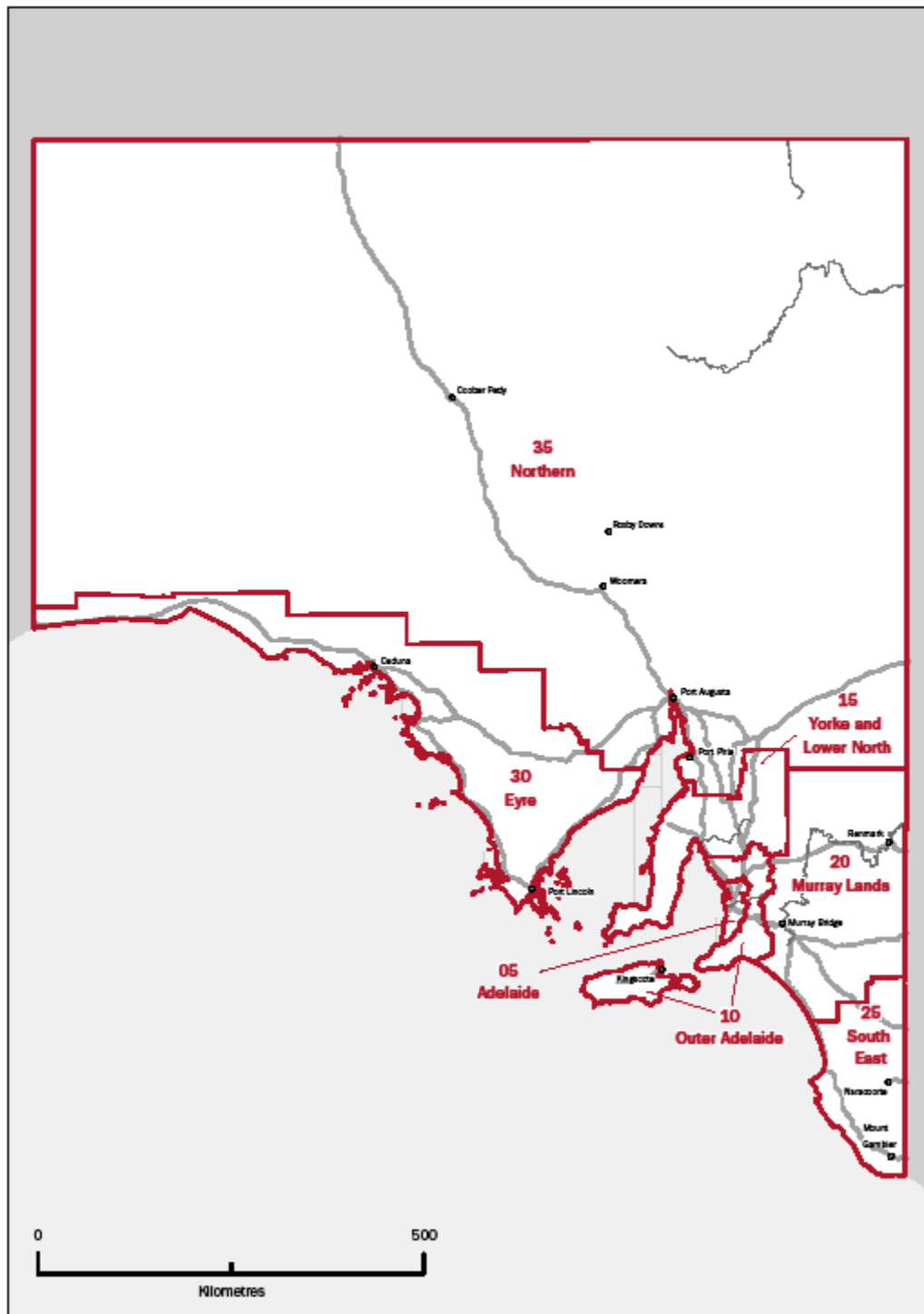
QUEENSLAND, Statistical Divisions



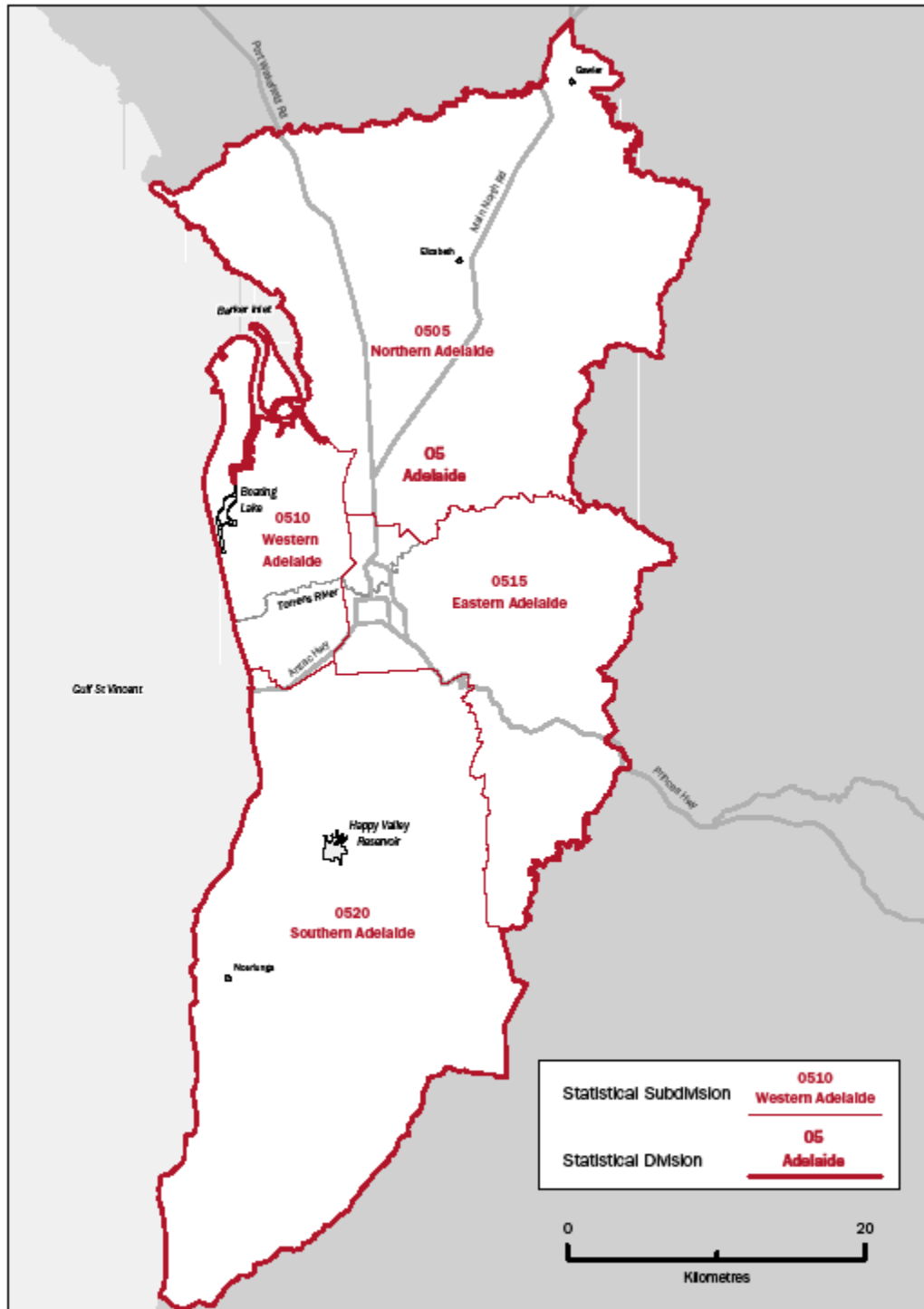
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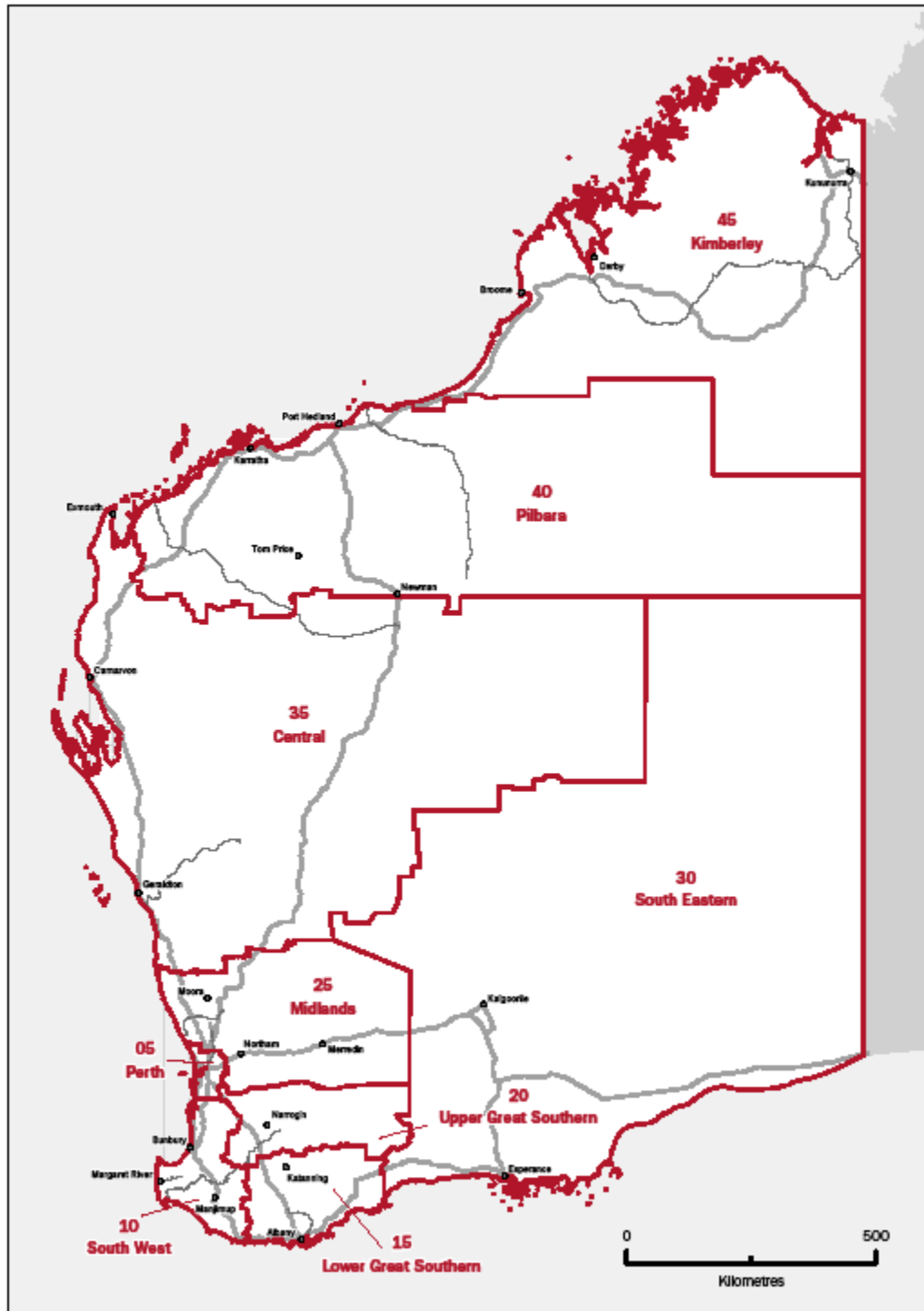
SOUTH AUSTRALIA, Statistical Divisions



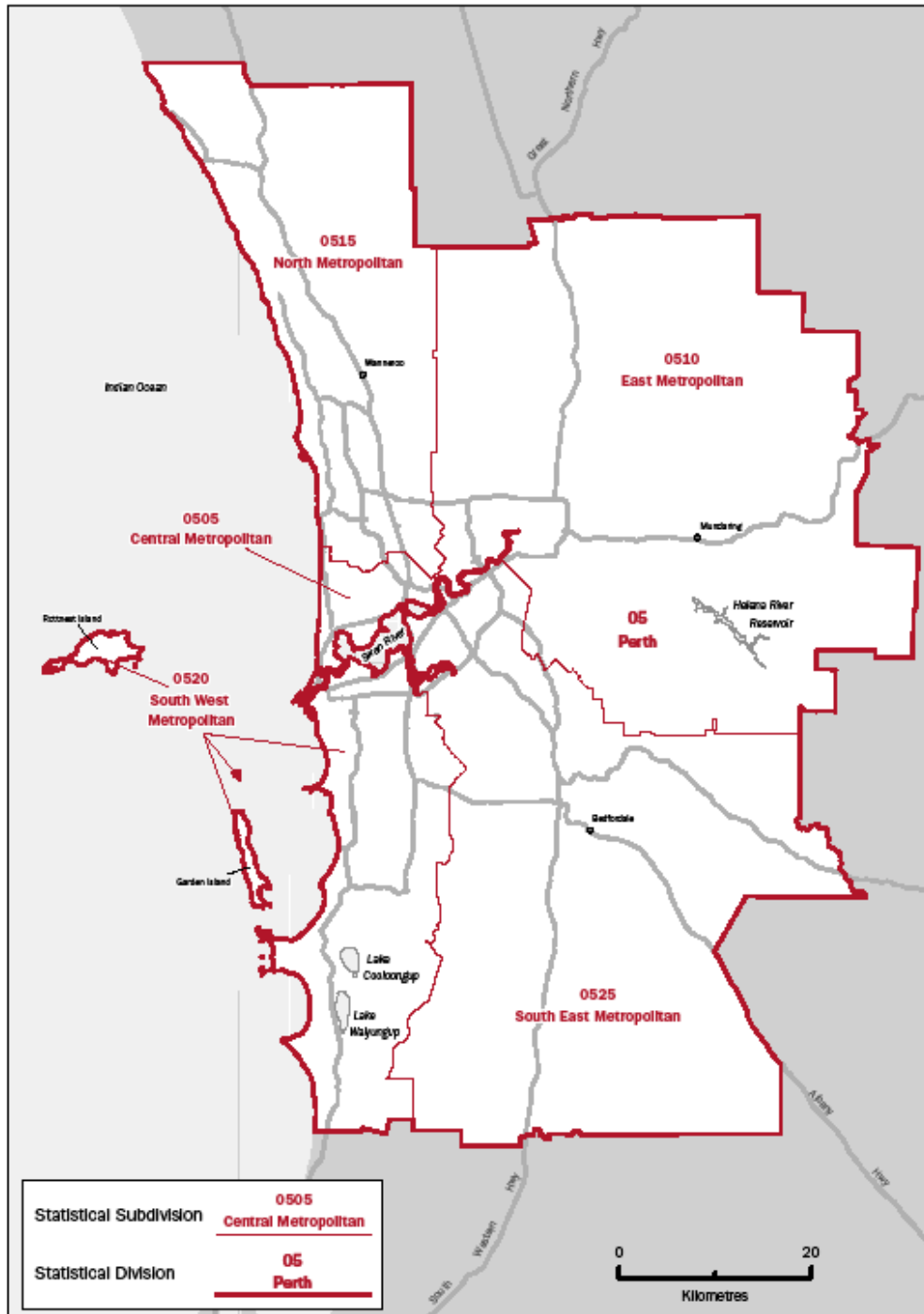
SOUTH AUSTRALIA, Adelaide Statistical Division



WESTERN AUSTRALIA, Statistical Divisions



WESTERN AUSTRALIA, Perth Statistical Division



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