



Positioning Paper

The housing security consequences of underemployment

authored by
Iain Campbell, Sharon Parkinson, Gavin Wood

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ACRONYMS

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
AHURI	Australian Housing and Urban Research Institute Ltd.
AWIRS	Australian Workplace Industrial Relations Survey
CBD	Central Business District
CofFEE	Centre of Full Employment and Equity
FaHCSIA	Australian Government Department of Families, Housing, Community Services and Indigenous Affairs
FEANTSA	Fédération Européenne d'Associations Nationales Travaillant avec les Sans-Abri (European Federation of National Organisations Working with the Homeless)
GFC	Global Financial Crisis
HAR	Housing Affordability Ratios
HES	Household Expenditure Survey
HILDA	Household, Income and Labour Dynamics in Australia
ICLS	International Conference of Labour Statisticians
ILO	International Labour Organisation
LFS	Labour Force Survey
KILM	Key Indicators of the Labour Market
OECD	Organisation for Economic Cooperation and Development
NRV	National Research Venture
SEARS	Survey of Employment Arrangements, Retirement and Superannuation
SIHC	Survey of Income and Housing Costs
SUW	Survey of Underemployed Workers
MIAESR	Melbourne Institute of Applied and Economic and Social Research

EXECUTIVE SUMMARY

This Positioning Paper introduces a research project that aims to provide an Australia-wide analysis of the consequences of underemployment for housing security. It thereby explores the connection between an increasingly important but problematic feature of contemporary labour markets (underemployment) and a crucial dimension of housing research and policy (housing security).

The empirical findings of the research will be presented in a Final Report. This Positioning Paper focuses on presenting the background research for the project, including conceptual issues, a review of the academic and policy literature, and an initial formulation of the methodology. The paper starts with the rationale for the project, from both an academic and a policy point of view. It then goes on to examine the current state of knowledge on underemployment as a feature of labour markets in Australia. The paper also reviews the literature on the housing side of the project, referring to both academic and policy literature in housing and pointing to the major gap that exists in relation to underemployment and housing outcomes such as housing security. The paper concludes with a brief discussion of our research strategy, including our research questions and data sources.

The rationale for the research project (Chapter 1) builds on the familiar rationale for examining the connection between labour market conditions such as unemployment, or joblessness in general, and housing. Such labour market conditions can cause severe housing problems for affected individuals and households and can present substantial challenges to housing policy. It is widely accepted, in particular, that unemployment can negatively affect *housing security*, though in complex and indirect ways. We use the notion of secure housing to refer to housing that allows residents to plan ahead with minimal anxiety about the future and to choose whether and when to stay or leave. On the other hand, housing insecurity arises when circumstances are such that residents cannot plan ahead because their housing arrangements are threatened by financial factors, insecure tenancy arrangements or some other hazard. Housing insecurity also arises when individuals and families are excluded from conventional or culturally accepted forms of housing.

This project is concerned with a labour market feature that closely resembles unemployment—what is commonly called underemployment. By underemployment we mean *time-related underemployment*, broadly understood as employment that is insufficient in terms of the number of hours of paid work. Underemployment is closely related to the concept of unemployment: thus both involve a notion of insufficient hours of paid work; both are linked in official labour force statistics as aspects of labour force underutilisation; both represent a measure of the labour force status of individuals; both involve a subjective preference as one element in the definition (a wish to find more hours of paid work in the case of the underemployed and a wish to find a job in the case of the unemployed); and both involve what could be seen as a transitional state on the way to and/or from a desired state of adequate employment. Underemployment has begun to attract attention from labour market researchers and policy-makers, partly in response to the compelling evidence that underemployment has become increasingly significant as a reserve of underutilised labour in Australian labour markets. Underemployment has been given a careful definition and is now frequently joined together with unemployment in official measures of labour underutilisation.

Underemployment resembles unemployment and is an increasingly significant feature of Australian labour markets. We can hypothesise that, as in the case of unemployment, underemployment is likely to have a negative effect on housing

outcomes, including housing security. Yet the connection between underemployment and housing insecurity has not been thoroughly examined by housing researchers and policy-makers. Our research project aims to fill this important knowledge and policy gap.

We pay special attention in the Positioning Paper to presenting the current state of knowledge on underemployment as a feature of labour markets in Australia (Chapter 2). We offer a comprehensive introduction to what is perhaps the least familiar element in our research project, introduce the central labour market concepts that we will use as a framework for our analysis, and document the key points in the rationale for the research project, in particular the increasing significance of underemployment and its connection with unemployment. This section of the Positioning Paper can be seen as constituting a contribution to existing labour market literature. The discussion starts with the relevant definitions of underemployment and the constituent categories of the labour force framework (see also Appendix 1). In our research project we adopt the simplest definition of underemployed persons, as persons usually working less than 35 hours per week who state a preference for working more paid hours. This facilitates use of a revised labour force framework, in which the population aged 15 years and over is divided up into five mutually exclusive categories: persons employed full-time (adequate full-time workers); persons employed part-time but who do not state a preference for more hours (adequate part-time workers); persons employed part-time who do state a preference for more hours (the underemployed); persons who are unemployed; and persons who are not in the labour force. We use this revised labour force framework as a fundamental starting point for our analysis in the research project.

We review the emerging body of literature on underemployment in Australia and present selected descriptive statistics both on the trends in underemployment and on the profile of underemployed workers. The initial descriptive analysis confirms that underemployment is a widespread feature of Australian labour markets. The headcount measures suggest that underemployed persons (874 100 in August 2010) now outnumber unemployed persons, while the volume measures suggest that underemployment is equivalent to around two-thirds of the hours sought by the unemployed. The number of underemployed persons remained largely stable at surprisingly high levels for much of the period since the early 1990s, before rising during the Global Financial Crisis (GFC) in 2008–09 and then falling back slightly in the period after. The initial descriptive analysis indicates that underemployment is not evenly distributed across the population but more likely to be concentrated in particular industries such as retail, employment types such as casual work, and demographic groups such as women.

The literature from the housing side is also reviewed in this Positioning Paper, drawing out some of the conclusions in the existing literature on changing labour markets and housing insecurity (Chapter 3). Though this literature is rich and rapidly developing to include labour market features such as unemployment, insecure work and the working poor, it has not yet confronted the important link between underemployment and housing outcomes. The Positioning Paper thereby identifies a crucial knowledge and policy gap on the connections between adverse housing security outcomes and underemployment as a measure of labour underutilisation. More substantively, we use the review to identify helpful methods and paths of analysis for our research project. In particular, we draw lessons on the need to consider: 1) labour market changes such as underemployment at the household as well as the individual level, 2) the way in which labour market changes impact on different housing tenures; and 3) the importance of transitions and the duration of spells.

This Positioning Paper presents the research questions that we intend to use as the frame for our empirical research (Chapter 4). On the basis of the existing literature on labour markets and housing insecurity, and on the basis of our initial understanding of underemployment, we presume that underemployment is likely to have a negative impact on housing security. However, the precise nature of this impact, including the effect of different mediating factors, remains a gap in knowledge. Our central research question is: 'What adverse consequences does underemployment have for housing security?' This broad and exploratory central question can be disaggregated into subsidiary questions, starting with those that promise to deepen our understanding of underemployment before extending to questions that examine in detail the relationship between underemployment and housing insecurity. Finally, we are interested in the general question of the policy implications of the findings. A full list of research questions is in Chapter 4.

Our research strategy for answering the main research questions starts with use of data from the first nine waves of the Household, Income and Labour Dynamics in Australia (HILDA) survey. This is a nation-wide household panel survey with rich sources of data for our analyses of underemployment and housing security. In this Positioning Paper we conclude our discussion by considering how to use HILDA in order to measure our key variables—in particular, underemployment, including spells of underemployment, and housing security. With respect to housing security, we develop two measures: one based on housing payment arrears and the other based on housing payment risk. One important issue concerns the need to develop a household employment measure in order to link underemployment, which is conventionally presented as an individual characteristic, and housing security, which is conventionally presented as a household characteristic.

1 INTRODUCTION

Our research project aims to provide an analysis of the housing security consequences of time-related underemployment in Australia, with a particular focus on its impact across housing tenures and household groups. Though the relationship between housing outcomes and unemployment is well documented, there has been limited research up to now on the other major dimension of labour force underutilisation—time-related underemployment or, as it is more commonly called, underemployment. Yet, as in the case of unemployment, there is a good reason to suspect that underemployment may be associated with difficulties in housing, including reductions in housing security.

This section outlines in more detail the rationale for the research project. It begins by defining underemployment and outlining its significance in contemporary Australian labour markets. It then turns to a brief discussion of the implications of underemployment for the housing circumstances of Australians and the new challenges it creates for housing policy.

1.1 Underemployment

1.1.1 *Forms and an initial definition*

In labour market research, underemployment refers to employment that is insufficient or inadequate in one way or another in its use of the capacities of the individual worker (ILO 1998). As such, it can be seen to take varied forms, including ‘inadequate employment situations’ (ILO 1998) or ‘skill-related underemployment’ and ‘labour hoarding’ (Wilkins & Wooden 2011; see also Brown & Pintaldi 2006; McKee-Ryan & Harvey 2011). This Positioning Paper, and the research project that it introduces, is not concerned with the forms of underemployment that are mentioned above; it is strictly concerned with just one form of underemployment, viz. *time-related* underemployment, broadly understood as employment that is insufficient in terms of the number of hours of paid work. This is the most prominent and familiar form of underemployment, which is increasingly used in national labour force statistics as a measure that supplements standard measures of unemployment (ILO 2009). In labour force statistics and labour market research, ‘time-related underemployment’ is commonly abbreviated just to ‘underemployment’, and we adopt the same convention in this Positioning Paper.

Underemployment can be measured in several ways. We explore in more detail the definitions found in Australian labour force statistics and labour market studies in Chapter 2 and Appendix 1. However, it is useful to note here that we follow the broad consensus in the secondary literature by assuming, first, that underemployment only affects people who work less than a standard full-time working week of 35 hours and, second, that the measure of underemployment is based on the stated preference of the workers for more hours of work. Consistent with these assumptions, the simplest definition of underemployed workers refers to people usually working less than 35 hours per week who state a preference for working more paid hours.

1.1.2 *Underemployment and unemployment*

In the sense used in this Positioning Paper, the concept of underemployment is separate from but closely related to the concept of unemployment. They share many features: thus both represent a measure of the labour force status of individuals; both are linked in official labour force statistics as aspects of labour force underutilisation; both involve a notion of insufficient hours of paid work; both involve a subjective preference as one component of the definition (a desire to find more hours of paid

work in the case of the underemployed and a desire to find a job in the case of the unemployed); and both involve what could be seen as a transitional state on the way to and/or from a desired state of adequate employment. But whereas the unemployed person is completely jobless, the underemployed person has a job and wants more hours of paid work than this job offers. Underemployed workers, from this point of view can be seen to stand at the boundary of employment and unemployment. Though they are employed, they are not adequately employed; indeed they can be regarded as partially unemployed (in some national contexts they are explicitly labelled and treated in policy as 'partially unemployed' Jonsson & Nyberg 2009).

Labour market research has increasingly recognised the limitations of focusing on unemployment as the only indicator of what is variously called poor labour market performance or labour market slack or—from the point of view of the individual—labour market disadvantage (Watson 2000; Wilkins & Wooden 2011). The focus on unemployment was appropriate for a particular type of labour market, dominated by steady participation in full-time paid work by workers engaged in a lengthy career that reached from the end of full-time education (and training) to compulsory retirement (see O'Donnell 2003). In such labour markets, characteristic of many countries in the middle of the twentieth century, unemployment might be associated with entry into a career or an unwelcome interruption caused by economic downturns.

Labour markets have changed as a result of the interaction of supply factors, demand factors and alterations in labour market regulation. For example, changes on the supply side have occurred as women have entered the paid workforce in greater numbers and as desired participation patterns have fractured—partly in response to the needs of women and dual breadwinner families but also in response to trends in relation to education (which has broadened and been increasingly combined with part-time paid work), travel, and new concepts of retirement. On the demand side, employers have responded to new competitive pressures and changed patterns of labour supply by developing and installing new working-time schedules, including fragmented part-time schedules. At the same time, changes to the labour regulation and social security system have often facilitated new patterns of 'flexible' work. Contemporary labour markets, both in Australia and in other industrialised countries, are increasingly characterised by different *degrees* of participation (not only full-time but different part-time schedules) and by a proliferation of labour market transitions between paid work and other labour market states (Schmid 1995; Schmid & Schömann 2003; for Australia see Watson et al. 2003; Howe 2007). These developments have an important gender dimension which requires analysis (Mata Greenwood 1999).

It is clear that, as labour markets change and become more fragmented and fluid, the capacity of the concept of unemployment to throw light on the health of labour markets has diminished (Watson et al. 2003). A focus just on unemployment risks misunderstanding contemporary labour markets and misjudging contemporary policy needs (Standing 1999). One line of research has responded by investigating what can be called 'hidden unemployment', generally associated with people who are jobless and who want a job but do not meet the conditions of availability and active job search that are elements in the definition of unemployment. Such people are classified as not in the labour force, but they can be regarded as part of a labour reserve that is supplementary to unemployment. However, the major line of response has been to look more closely at the jobs generated in contemporary labour markets. These jobs can no longer be assumed to be standard, full-time jobs that offer adequate employment to individual workers; instead employment increasingly comes in a variety of forms, marked by a diverse and often flexible range of schedules, part-time or full-time. Some of these schedules fit the needs of individuals, but others do not. It

is here that we encounter another important labour reserve—underemployed workers, that is workers who are indeed employed but want more hours than the job offers (which can be as little as one hour of paid work per week).

Underemployment is not the only difficulty associated with jobs in contemporary labour markets, and an emerging literature draws attention to the growth of insecure or precarious employment, marked by insecurity across several dimensions of work (Vosko et al. 2009; Vosko 2010; Kalleberg 2011). However, underemployment attracts special attention in labour market research because of its importance from the point of view of labour market performance and labour market slack and because of its affiliation with the concept of unemployment. Underemployment has been extensively incorporated over the past 10 years in official labour market statistics. As explained more fully in Chapter 2, the Australian Bureau of Statistics (ABS) has developed several measures of underemployment, both headcount (person-based) and volume (hours-based) measures, which are added to the parallel measures of unemployment in order to produce aggregate measures of labour force underutilisation (ABS 2007a). In this way the ABS has introduced a new distinction in the standard labour force framework. In addition to the basic division of the working-age population into the employed, the unemployed and those not in the labour force, it introduces a distinction within the employed between those adequately employed and those underemployed.

The new measures of labour force underutilisation are essential for adequate assessment both of the degree of idle capacity in the economy and of labour market trends. As such, they have become increasingly influential for labour market research and policy in Australia (ABS 2007a). They are also important for defining disadvantaged groups in the labour market and therefore in paving the way for more effective government policy, across areas such as employment and social welfare, skill formation and housing. Traditionally, disadvantage was equated just with joblessness, particularly through unemployment. It is true that unemployment is a major source of personal and household hardship and justifiably has priority in much economic and social policy. The consequences of underemployment are likely to be less severe, but the evidence suggests that they are still substantial (Wilkins 2007; see also Winefield 2002). Underemployment is linked to low pay, in hourly as well as in weekly terms (Watson et al. 2003, p.39), and it can lead to household financial difficulties (Wilkins 2007). There is evidence that it is linked with casual status and with other difficulties, such as irregular schedules (Wilkins 2007). As in the case of unemployment or joblessness in general, we could expect the adverse consequences of underemployment to be more severe, if it occurs unexpectedly or if it is persistent or recurrent. Similarly, we could expect to be most concerned if any income deficit is not buffered by the income from paid work by other members of a household. Because of such concerns, underemployment is increasingly integrated into contemporary discussions of poverty and social exclusion (Saunders 2011), and it figures as one element in discussion of the working poor and low-wage work (Masterman-Smith & Pocock 2008). However, the crucial link with housing is yet to be fully explored.

Underemployment, like unemployment, is best seen as a distinct labour force status. Though it is associated with features such as low hours, low income and insecurity, it cannot be reduced to one or other of these features. As a distinct labour force status, it demands examination in its own right (ILO 1998).

1.1.3 Trends

The need to pay more attention to underemployment is underlined by the evidence that it is increasing in significance in contemporary labour markets. ABS figures for trends in underemployment in Australia, detailed in Chapter 2, indicate that

underemployment is growing in significance and is now comparable in its extent with unemployment. Indeed, throughout the past decade, the number of underemployed individuals in Australia has consistently outnumbered those who are unemployed (Campbell 2008). The increase has been steady, though with occasional backward steps during upturns in the business cycle. In August 2009, at the peak of the GFC, the rate of underemployment reached a high of 7.8 per cent compared with an unemployment rate of 5.8 per cent. By May 2010, the underemployment rate had fallen to 7.2 per cent, but still 2 percentage points above the unemployment rate (ABS 2010b, pp.1–2). In August 2010, the number of underemployed was estimated at 874 100 (ABS 2010b). It is true that in volume terms underemployment remains less important than unemployment, but it has grown in significance, and the additional hours of work preferred by the underemployed are now around two-thirds of the hours of work sought by the unemployed (ABS 2009d, 2010c).

A focus just on unemployment can give a misleading picture of the health of the labour markets and the position of individuals and households within labour markets. This is particularly pertinent for Australia, where the unemployment rate has been consistently low by international standards, both prior to and during the GFC. However, as the Organisation for Economic Cooperation and Development (OECD) notes (2010b), the underemployment rate in Australia has been consistently high in international comparison.

1.2 Underemployment and housing outcomes; issues and challenges for housing policy

Households with low incomes are particularly prone to adverse housing outcomes and this concern has motivated a large body of research in the housing studies area. Australian researchers have made noteworthy contributions to the literature (see for example, Bradbury et al. 1993; Hulse & Randolph 2005). The research documents the difficulties that these households commonly experience in paying for housing of a satisfactory standard. Since earnings are such an important component of household incomes, researchers have naturally sought to improve our understanding of housing outcomes by analysing the labour-housing markets nexus.

The unemployed and other unwaged people are a common focus of attention. Unemployment attracts interest and concern because, compared with the goal of employment, it involves reduced income, is involuntary and is commonly unexpected. Rent and mortgage payments are regular payments that cannot be easily deferred, so spells of unemployment can threaten housing security, as when landlords move to evict tenants with rent arrears, and financial institutions foreclose on home buyers with mortgage arrears. If unemployment persists, savings can be depleted and future prospects in the housing market will be adversely affected. When afflicted by unemployment, households who are younger and have yet to attain home ownership will find the accumulation of deposits more difficult and first transitions into home ownership either delayed or permanently deferred. As a result, it is common to find unemployment status variables in models analysing transitions into home ownership and the affordability of home ownership (for Australian examples, see Anstie et al. 1983; Bourassa 1995, 1996; Bourassa & Yin 2006; Hendershott et al. 2009).

Other unwaged people include the retired and those of working age but not in the labour force, the disabled and discouraged workers being prominent among the latter. A high dependence on pensions, benefits and allowances characterises the unemployed and unwaged groups. Income support payments on their own are typically insufficient to allow recipients to secure affordable housing at market rents and prices, and so high levels of housing stress can be anticipated, particularly in

households where all working age adults are jobless (see Wadsworth 1998). Indeed Australian housing assistance programmes explicitly recognise this by making receipt of an income support payment an eligibility condition in means tests for Commonwealth Rent Assistance and public housing. There is a growing collection of studies evaluating the targeting of housing assistance on unwaged groups, and their effectiveness in pulling such groups out of housing affordability stress (for an Australian example see Wood et al. 2005).

A move away from a focus on housing affordability in favour of the broader concept of housing security is a contemporary development that is now featuring prominently in Australian housing studies. The notion of secure housing refers first of all to housing that allows residents to plan ahead with minimal anxiety about the future and to choose whether and when to stay or leave. Conversely, housing insecurity arises when circumstances are such that residents cannot plan ahead because their housing arrangements are threatened by financial factors, insecure tenancy arrangements or some other hazard. Housing insecurity also arises when individuals and families are excluded from conventional or culturally accepted forms of housing (Chamberlain & MacKenzie 2003; Minnery et al. 2003; Hulse & Saugeres 2008; Parkinson 2010).

Given the strong links with income, housing insecurity is likely to unequally affect the unemployed as well as other unwaged groups. While we can expect labour market factors to be important in shaping housing outcomes, they are not the only drivers and need to be viewed in the context of the broader housing position that households hold over time. Moreover, housing markets play a role in shaping labour market outcomes (Vipond 1984 is one of the earliest Australian studies). Spatial mismatch between job and affordable housing opportunities have been examined in Australian metropolitan settings in Dodson (2005) and Yates et al. (2005), while the role of housing assistance in shaping work incentives is the subject of papers by Hulse and Randolph (2005) and Nordvik and Ahren (2005).

In spite of its close association with unemployment, researchers and policy-makers have not so far grappled with the implications of the growing significance of underemployment for housing affordability and housing security. Yet there are good *a priori* reasons why we might expect the underemployed to experience housing difficulties. In many if not most cases, underemployment will be associated with income levels that are inadequate to meet pressing spending needs; housing costs are an important component of household budgets, and they are therefore likely to be one of those pressing spending needs that are a catalyst motivating the underemployed in their search for more work hours. Underemployment can also share some of the same undesirable features as unemployment; it is involuntary and it can arise unexpectedly, as when an employer puts its workforce on 'short time' in response to deterioration in business conditions. If associated with inadequate income levels, it can cause the underemployed to dip into their savings with adverse long-term consequences for housing careers.

Existing analyses of underemployment, including some studies drawing on HILDA data (Wilkins 2004, 2006, 2007), leave most housing-related questions unanswered but provide some insight into the characteristics and consequences of underemployment. We know from previous research and profiles that underemployment is disproportionately experienced by workers in casual work and self-employment (Watson et al. 2003; Wilkins 2006). Underemployment is higher in non-metropolitan areas, though it is also significant in metropolitan areas (Wooden 1996). Research indicates that there is a concentration of underemployment in younger age groups, amongst the less-skilled, and with many more women than men

classified as underemployed (Watson et al. 2003; Wilkins 2006; Campbell 2008; Baum et al. 2008a).

The younger age groups, where underemployment is concentrated, are at the early stages of housing careers; Australians typically make a first entry into home ownership before age 35 (Hendershott et al. 2009) and it is in these early years of ownership that the burden of mortgage payments is high and housing equity is yet to be accumulated (Beer et al. 2006). We might then expect underemployment to be particularly influential among the young and it could be playing an important role in delaying entry into home ownership, a phenomenon that is believed to be behind declining home ownership rates in this age group (Yates 2000).

Although women are more likely to report being underemployed, it is the increase in the rate of male underemployment that has been most marked in the past decade. Growth in the proportion of part-time working men that are underemployed was particularly evident during the GFC, with their share increasing from 25 to 30 per cent between September 2008 and September 2009 (ABS 2010b, p.2). This has sometimes been linked with a shift from full-time to part-time hours for some men as a form of 'de facto worksharing' (Wooden 2012). An increasing incidence of male underemployment is likely to be particularly problematic for housing if this is occurring amongst primary earners. It also raises greater concern if a shift from full-time to part-time hours and corresponding decline in income is unexpected, and concentrated on those groups meeting high housing costs. Likewise, housing consequences will be more problematic for single-headed households relying on one income.

Though the rate of underemployment is higher amongst younger workers aged between 15 and 24 years, these young people tend to have a shorter duration of underemployment as compared to the over-35s (ABS 2010a). Short spells could be bridgeable without undue housing stress. However, much depends upon whether there is churning in and out of underemployment. Though the rate of underemployment is lower among over-35s, the duration of their spells of underemployment is much longer. This suggests that middle-aged Australians are less likely to become underemployed, but once a spell of underemployment begins they find it more difficult to escape. These longer bouts of underemployment may have more profound adverse implications for housing situations, because it is more difficult to bridge income insufficiency by drawing down savings over long periods of time.

While plausible, these propositions lack firm empirical backing because the existing literature remains sparse. Some smaller-scale qualitative studies refer to the potential consequences of underemployment, including in particular the increased risks of mortgage default (Berry et al. 2010), but no study has systematically examined the housing consequences of underemployment. Despite the availability of panel data sets, there are no longitudinal studies investigating the dynamics of underemployment (e.g. do those affected cycle in and out of underemployment?) and housing outcomes (e.g. are long spells of underemployment particularly damaging to housing careers?).

Research undertaken by Sharon Parkinson on the connections between employment insecurity and housing insecurity as part of her AHURI-funded PhD program provides insights into how underemployment can affect housing circumstances. Her research indicates that households are more likely to slip into rent and mortgage arrears if no working-age adult is in permanent employment and one or more are underemployed, with the impact increasing with the incidence of underemployment. Similarly, qualitative interviews revealed how households could fall behind in their housing payments when members of a household experience only slight reductions in paid hours of work (Parkinson 2010).

The underemployed could pose a new and important challenge for housing policy. Despite an elevated risk of housing insecurity, their chances of receiving housing assistance are much lower than those of the unwaged, because the present arrangements target housing assistance on households receiving government pensions or allowances, and the earnings of the underemployed may leave them ineligible for pensions or allowances that act as a 'passport' to housing assistance. For tenants, this is most likely to happen among singles and other childless households, as an important pathway into Commonwealth Rent Assistance is eligibility for Family Tax Benefits. Among home buyers the underemployed are particularly vulnerable as there are no Federal Programs to assist those in housing stress.¹ The links between housing and underemployment are discussed more thoroughly in Chapter 3, where we also highlight other possible challenges for housing policy.

1.3 Conclusion

Our key hypothesis in the research project is that underemployment adversely impacts housing security. Scrutiny of this basic research question will be a first priority. Our reading of the existing literature suggests that underemployment might have uneven effects on housing security, with two groups of Australians most likely to be adversely affected by underemployment. The first is marginal or recent home purchasers. We hypothesise that when affected by underemployment these home buyers will experience acute difficulty meeting mortgage payments and are therefore particularly vulnerable to housing insecurity. A second group are 'working poor' private renters who are typically ineligible for Commonwealth Rent Assistance or public housing and are therefore especially vulnerable to the effects of underemployment. Further discussion of our research questions and our research strategy is contained in Chapter 4.

But we begin the rest of this report with a discussion of underemployment in Australia, including the labour force framework, definitions of underemployment, literature and data on trends in underemployment and the key characteristics of the underemployed.

¹ The Henry Review (2009) recognised the vulnerability of families with mortgages and members in low paid employment; it recommended that family assistance payments include a tenure uniform allowance for housing costs. In recognition of this change it recommended that Commonwealth Rent Assistance would no longer be related to the number of children in the household.

2 UNDEREMPLOYMENT

This section examines the current state of knowledge about underemployment in Australia, drawing on secondary literature and existing data sources, in particular from the ABS. To pave the way for the literature and data review, the section begins with an introduction to the meaning of underemployment, followed by a brief account of the way, in which the introduction of this concept involves a refinement of the standard labour force framework used by labour market researchers in Australia. The section then turns to a review of previous Australian studies of underemployment. Finally, we present selected data on underemployment and underemployed workers, in order both to supplement the review of previous studies and to build a preliminary profile of underemployed workers that can set the scene for the subsequent discussion in Chapter 3 of possible implications of labour market changes for housing and housing policy.

2.1 What do we mean by underemployment?

Underemployment can be broadly defined as employment that is insufficient in terms of the number of hours of paid work. This elementary definition has been extensively developed, both internationally and in Australia, in the statistics literature (see Appendix 1). Australia has been a leader in this development, through the efforts of the ABS to develop more extended measures of labour force underutilisation.

Efforts to develop the concept of underemployment were propelled by an awareness that unemployment was an increasingly poor measure of labour underutilisation in contemporary labour markets and that it was advisable to develop supplementary measures in order to capture the underutilisation that is associated with the employed ('underemployment') and the group counted as not in the labour force ('hidden unemployment'). In response to this need, the ABS, over the past 10 years, guided by Recommendations of the International Conference of Labour Statisticians (ICLS), (see ABS 2007a), developed a suite of measures, both headcount and volume measures, that reach beyond the unemployment rate in order to offer broader measures of labour underutilisation.

The ABS *headcount (or person-based) measures* start with the familiar unemployment rate. Amongst the new headcount measures are the 'labour force underutilisation rate', which adds together counts of the unemployed and the underemployed expressed as a percentage of the labour force, and the 'extended labour force underutilisation rate', which adds together counts of the unemployed, the underemployed and two groups of people marginally attached to the labour force expressed as a percentage of the labour force augmented by the two marginally attached populations. The ABS *volume (or hours-based) measures* start with a 'volume unemployment rate', based on the number of hours sought by unemployed people, expressed as a percentage of the potential hours in the labour force ('the sum of hours sought by unemployed people and additional hours preferred by underemployed people working part-time, and the hours usually worked by all employed people'—ABS 2009d). To this has been added a 'volume underemployment rate', which refers to the additional hours of labour preferred by underemployed workers expressed as a percentage of the potential hours in the labour force. This in turn leads to a 'volume labour force underutilisation rate', which takes the hours sought by unemployed people plus the additional hours preferred by underemployed people, expressed as a percentage of the potential hours in the labour force (see ABS 2007a, 2009d). The ABS has not, as yet, attempted to develop a volume measure that would include 'hidden unemployment'.

In spite of the extensive effort in developing these measures, the precise definition of underemployment remains blurred. In effect we can distinguish in current ABS data three overlapping but distinct measures of underemployed workers in Australia. All centre on part-time workers (see Appendix 1 for the justification of this threshold). The simplest is that of 'part-time workers who would prefer more hours'. This measure is complemented by two additional measures that follow key recommendations from the ICLS (ILO 1998). In these two measures, the core group is still composed of 'part-time workers who would prefer more hours', but some workers are subtracted from the total, because they do not meet a criterion of availability, and a group of full-time workers who are working fewer than 35 hours in a reference week because of 'economic' reasons are added in to the total. The two ICLS-influenced measures are similar but they differ because of the criterion of availability that is applied—in one case it is availability during the reference week while in the other case it is availability in the next four weeks.

Scholars largely follow the lead set by the ABS. Researchers who use other data sources similarly tend to construct measures that parallel one or other of the ABS measures. The most common choice, because it is the easiest to reproduce is the measure of 'part-time workers who would prefer more hours'. For example, in his analysis of data from the HILDA survey, Wilkins (2006, 2007) chooses this measure and divides up part-time workers into two groups according to their answer to the HILDA working-time preference questions.

In drawing on background ABS data, for example in Section 2.4 below, this Positioning Paper uses all three measures of underemployed workers. Our research project, however, which is based on analysis of HILDA data, follows Wilkins in using the first measure of the underemployed worker, i.e. as 'part-time workers who would prefer to work more hours'. This choice of measure can be justified by its practicality—it is the easiest to derive from HILDA questions and the best for linking ABS data and HILDA data. Though not as sophisticated as the other measures, the choice of this measure makes little difference when estimating the size of the group of underemployed workers (see Appendix 1).

Each of the measures of underemployment developed and deployed by the ABS contains an objective element, in the sense that underemployment is seen as confined to workers who fall under an objective threshold of weekly hours (generally full-time weekly hours). At the same time the measures also involve a subjective element, based on the stated preference of workers for more hours. This subjective element is not unusual in labour market measures, and we can note that measures of unemployment, and indeed broader measures such as that of discouraged workers, similarly involve a subjective element, viz a stated desire to participate in paid work. Some labour market researchers have sought to avoid subjective measures and to replace them with objective measures of labour slack. But most efforts in this direction tend to reduce the labour force framework to just two categories—the employed and the not employed. As such, they overlook the crucial issue of underemployment and often involve rigid and inappropriate assumptions about the hours that persons could or should be working.²

² The volume measure of 'work intensity' that has been developed for households out of the European Union—Survey of Income and Living Conditions (EU-SILC) is calculated as 'the ratio between the number of months spent in employment during the year by household members of working age (i.e. those aged 16–64) and the number of months they could potentially spend in in work, if they were all employed'. This captures work intensity in the sense of joblessness, but it does not recognise the distinction between jobs that offer adequate hours and those that do not offer adequate hours. As such, it does not capture an important aspect of work intensity, which is increasingly important in contemporary

In a social and economic context, where needs are differentiated and cannot be assumed to be standardised, asking workers what hours they would prefer to work is a logical avenue for investigating working-time needs. The answers often point to a substantial mismatch between actual hours and preferred hours. Though this tends to throw doubt on the conventional labour supply model in neoclassical economics, which assumes that the price mechanism serves to equilibrate labour markets and that workers are free to choose their hours at a given wage (Reynolds & Aletraris 2006), data showing a mismatch are widely regarded as robust, for example in helping to predict quit behaviour (Böheim & Taylor 2004). In particular, data on underemployment have been widely used to identify working-time ‘gaps’ and to develop policy initiatives to help individuals to realise their preferences (Lee 2004).

Nevertheless, it remains true that reliance on a measure with a subjective element can create difficulties for analysis, especially the interpretation of change. Thus, it should be kept in mind that a change in the extent of stated preferences for more hours—and therefore a change in the extent of underemployment—can be due to several factors. Where preferences are stable, it can be due to a change in actual hours that has either created or resolved a mismatch, but it can also be due to other factors that shift preferences: a change in background social and economic circumstances (e.g. a family breakup, a new mortgage); a process of ‘adaptation’ or ‘settling’ (Reynolds & Aletraris 2006); or an instability in stated preferences that is anchored in ambivalence about work and working hours (Campbell & van Wanrooy 2013 forthcoming).

2.2 Refining the labour force framework

The labour force framework, developed for use by national statistical bodies (see ABS 2007a), is the fundamental conceptual framework used in labour market research (Wilkins & Wooden 2011). This centres on a division of the population aged over 15 into three mutually exclusive categories—employed, unemployed and not in the labour force. Full definitions of each of these categories are freely available in ABS 2007a.

The labour force framework has been extensively amended and refined in recent years. The most significant avenue of amendment has occurred as a result of the development of the measures of underemployment that we outline above. This has the effect of introducing a new distinction within the labour force framework, in which the employed are now divided into the fully employed and the underemployed (Wilkins & Wooden 2011) or, as we prefer to call it in this research project, the adequately employed and underemployed.

As noted above, our research project uses the simplest measure of underemployment, in terms of ‘part-time workers who would prefer more hours’. In effect this represents a division of the category of the employed into three sub-groups: full-time workers, adequately employed part-time workers and underemployed part-time workers. As a result, the labour force framework has been expanded from three categories to five. It is now made up of full-time workers, adequately employed part-time workers, underemployed part-time workers, the unemployed and people not in the labour force.

Our research project uses this revised and expanded labour force framework, composed of five main labour status groups, in order to frame the analysis of underemployment. It allows us to compare, both at the individual and the household

labour markets, where many jobs are part-time and do not offer the workers sufficient hours to meet their needs.

level, underemployment with other categories such as unemployment and adequate part-time employment.

2.3 Previous Australian studies

Discussion of underemployment in Australia has been somewhat sporadic, but it has become more intense in the past 10 years, stimulated by the availability of better data and by an awareness that underemployment is increasing in significance. The importance of the issue has been apparent for at least three decades. The influential book by Stricker and Sheehan (1981) focused on hidden unemployment, but it also drew attention to underemployment. It was succeeded by several appeals for better statistics on the health of the labour market (e.g. Watson 2000; Denniss 2001, 2003; Barrett 2004). These calls were sometimes accompanied by efforts to put together alternatives to the conventional focus on unemployment, including in particular the vigorous efforts of researchers at the Centre of Full Employment and Equity (CofFEE) at the University of Newcastle to use available ABS data to develop alternative indicators (e.g. CofFEE 2007; see Mitchell & Carlsson 2000; Mitchell & Muysken 2008).

Analyses of ABS data on underemployment in the 1990s were conducted by Wooden (1996), who draws attention to several important features, including a pattern of substantial and steady growth of underemployment since the early 1970s. Amongst other findings about the distribution of underemployment he suggests that: 1) females are much more likely to be underemployed than males; 2) the likelihood of underemployment declines with age; 3) underemployment is relatively widespread in recreation, personal and other services and in construction; and 4) underemployment is significantly more widespread outside the major metropolitan areas (Wooden 1996, pp.21–22). He reviews the change from 1985 to 1995 and notes a large increase in the incidence of underemployment, a growth in the proportion of older workers (though youth are still dominant) and a growth in the proportion of males (though women are still dominant) amongst the underemployed (Wooden 1996, pp. 23–24).

Watson (2002; see 2010) used ABS data to point to changes in the Australian labour market and to draw attention to the close link between low wages and underemployment.

Though ABS data are widely used, especially for the documentation of trends (Wilkins 2006, p.372; see 2007, p.248; Abhayaratna et al. 2008, pp.135–51; Campbell 2008; Mitchell & Muysken 2008), academic analysis has also turned to other sources. For example, Doiron (2003) uses matched employer-employee data from the 1995 Australian Workplace Industrial Relations Survey (AWIRS) to test a hypothesis that underemployment represents labour hoarding on the part of firms experiencing negative demand shocks. She concludes that the hypothesis finds little support—underemployed workers are more likely to be employed in expanding firms.

The main alternative source used by Australian scholars has been the panel survey HILDA, which began in 2001 and offers information on a rich range of personal and household characteristics. Watson et al. (2003, pp.38–41) use 2001 HILDA data to generate a brief description of characteristics of the underemployed (where the latter were defined as 'working part-time and preferring more hours'). This confirms the picture drawn from ABS data, for example that the underemployed are more likely to be women, younger workers and concentrated in the retail and hospitality industries. However, it also adds some new points, for example that the underemployed are overwhelmingly employed as casuals, tend to be recently employed, and are generally low paid workers.

The most concerted use of HILDA data is by Wilkins. An initial working paper (2004) uses HILDA data to produce both headcount and volume measures of underemployment, but the subsequent article (2006) concentrates just on the headcount measures. Wilkins uses 2001 HILDA data to analyse the factors associated with underemployment (defined as 'a situation where a part-time employed person would like to work more hours in order to increase income' —see 2006, pp.374–75). He uses separate analyses for males and females, each incorporating a comparison with unemployment, fully employed part-time employment and full-time employment. He suggests that the likelihood of underemployment is strongly associated with age (though not as strongly as in the case of fully employed part-time work) and educational attainment, as well as previous labour market history. A variable for housing status is developed, but financial obligations for rent or mortgage are not seen as associated with underemployment. A separate analysis for employment characteristics suggests that casual status is significant for both the underemployed and the fully employed part-time. As in the case of ABS data, there is a strong link between underemployment and selected industries.

A subsequent analysis (Wilkins 2007) uses 2001 HILDA data to look at the link between underemployment and features, such as low personal and family income. The descriptive statistics for males and females suggest that the underemployed in the narrow sense ('underemployment occurs when employed persons who usually work less than 35 hours per week would like to work more hours than they currently usually work' —2007, p.252) are positioned between the unemployed and the fully employed part-time workers in terms of numerous personal and household features. For example the proportion of the (male and female) underemployed that cites household financial difficulty is much higher than the proportion of the (male and female) fully employed part-time but lower than the (male and female) unemployed. The modelling looks at underemployment and four selected 'outcomes': family receipt of income support, family equivalent income, personal income and life satisfaction. For female underemployed there are significant negative effects for all four, while for males there are significant negative effects for three (but not for family receipt of income support), though in all cases the negative effects are smaller than with the unemployed (2007, p.262). One strong result, however, is the significant negative correlation between underemployment and life satisfaction (whereas for the fully employed part-time group there is a significant positive correlation). In the light of these 'adverse consequences' Wilkins concludes (2007, p.265) that 'underemployment deserves greater recognition as an economic and social problem in Australia ...'

We refer above to a suggestion that underemployment is more significant in non-metropolitan areas. The spatial element is pursued by Baum and Mitchell (2008), who link up 2001 HILDA data, which contains markers for postcode location, with 2001 ABS Census data for a sample of 15–24-year olds in metropolitan areas. This allows the authors to explore regional level demand-side characteristics, such as the percentage of low-income jobs in the region as well as conventional supply-side personal characteristics. The factors significantly associated with underemployment (defined as 'working part-time but would like to work more hours' —2008, p.192, and also called 'involuntary part-time employment') that include two regional demand-side factors—the availability of local employment and the percentage of low income jobs—as well as supply-side characteristics such as English as a second language.

Similar analyses are pursued for workers of all ages in metropolitan regions (Baum et al. 2008a) and workers of all ages in non-metropolitan regions (Baum et al. 2008b, 2009).

Few HILDA analyses of underemployment so far take advantage of its longitudinal strengths to examine persistence and recurrence. The issue of persistence is raised by Wooden and Drago (2009, p.73), who compare HILDA data between 2001 and 2005 and suggest that underemployment is a less persistent phenomenon than overemployment. Thus after five years only 27 per cent of the underemployed from Wave 1 continued to say that they wanted more hours, compared to 49.9 per cent of the overemployed, who continued to say that they wanted fewer hours. However, it should be noted that 'underemployment' in this case seems to include all workers who express a preference for more hours. A later analysis (Wilkins et al. 2011, pp.72–73) for just a one-year period, 2007–08, compares the underemployed with the unemployed, finding that underemployment was in fact slightly more persistent than unemployment over this period. The analysis is useful in raising important issues for future research on persistence and recurrence, including the significance of different paths out of the state of 'underemployment' (which, as well as obtaining more hours in a job or jobs, can also include a change in preference without any change in hours + a reversion into unemployment or marginal attachment to the labour force). A potential pathway of particular relevance in the current context is a residential move to cheaper housing that would alleviate the household budget pressure to seek more hours.

Most research on the underemployed in Australia has stayed close to quantitative data from the large-scale surveys. It is rare to find underemployment related to broader economic and social developments. One exception is the discussion by Stromback (2008), who situates the increased significance of underemployment in terms of a general rise of casualised part-time jobs, exacerbated by new regulatory policies on unemployment, including the development of the privatised Job Network. He argues that the 'work first' approach followed by government policy has pushed many people into part-time jobs, often short-term and with insufficient hours, thereby helping to replace long-term unemployment with long-term underemployment.

There is a surprising absence of qualitative studies that would solicit in-depth information on the experiences of underemployed workers. However, underemployment is linked to casual status and low wages (see Section 2.4), and some evidence emerges indirectly out of studies of casual part-time workers or low-wage workers. A comprehensive and sensitive program of interviews with casual employees was carried out in 2004 (Pocock et al. 2004). The results point to the importance of control over working-time patterns in shaping the positive or negative experience of casual work. The authors suggest that most casuals feel powerless, and that the flexibility they encounter is flexibility for employers rather than flexibility for employees. As examples of employee-led flexibility they refer to predictability, having a say about changes, knowing hours in advance, controlling unpaid overtime, and controlling long hours and finish times. They also point to the importance of controlling overly short hours (2004, p.63). These employment conditions have important implications in the current context, because they do not suit the long-term commitments to pay mortgages or rents where stability of earnings is important.

Other indirect evidence on workers' experiences emerges from qualitative studies in particular industries. Recent studies indicate that low-wage work in cleaning is dominated by problems of underemployment that can be traced back to the turbulent structure of the industry, which obliges employee cleaners in contract cleaning companies to scramble constantly for more jobs and more hours (Campbell & Peeters 2008; Masterman-Smith & Pocock 2008, pp.61–64). Too few hours scattered over too many days are cited as a major issue amongst part-time workers in a banking study (Walsh 2007). Retail is an industry marked by a strong trend towards fractured part-time schedules amongst sales assistants and check-out operators. These schedules

can be seen as generating underemployment, amongst both casual part-time and permanent part-time employees (Campbell & Chalmers 2008; see Price 2006).

Explanation remains an important challenge for research on underemployment in Australia. Efforts to explain underemployment have been largely oriented to quantitative analysis based on large-scale data sets. These efforts have successfully identified a range of factors that are associated with underemployment, but the causal analysis has not proceeded far. The nature of large-scale data sets, largely oriented to individual responses, makes it difficult to identify accurately potential demand-side influences. Baum and Mitchell (2008) highlight several demand-side factors to do with regional labour markets, and other analyses often point to the significance of industry, but it is difficult to push further. Evidence from industries such as cleaning, banking and retail point to the importance of causal mechanisms, such as employer strategies that underpin such demand-side influences (Campbell 2008), but accurate description of these mechanisms and assessment of their precise impact is still lacking.

2.4 Data on underemployment

This section offers a summary of what we know about underemployed workers in Australia, using readily-available ABS data, together with descriptive data from Wave 9 of HILDA. The aim is to present a simple description of trends and a simple description of the profile of underemployed workers. This serves both as a quantitative supplement to our literature review in Section 2.3 and a necessary preface to the discussion in Chapter 3 of possible implications of labour market changes for housing.

We start with trends, using ABS data. This allows us to introduce two main personal characteristics, sex and age. Then we look at other selected characteristics of underemployed workers, using both ABS data and HILDA data. Finally, we examine more closely the link between underemployment and other aspects of labour insecurity. We are not aiming for a comprehensive review of characteristics of underemployed workers; instead, we are simply highlighting a few characteristics that appear salient for the discussion of housing security.

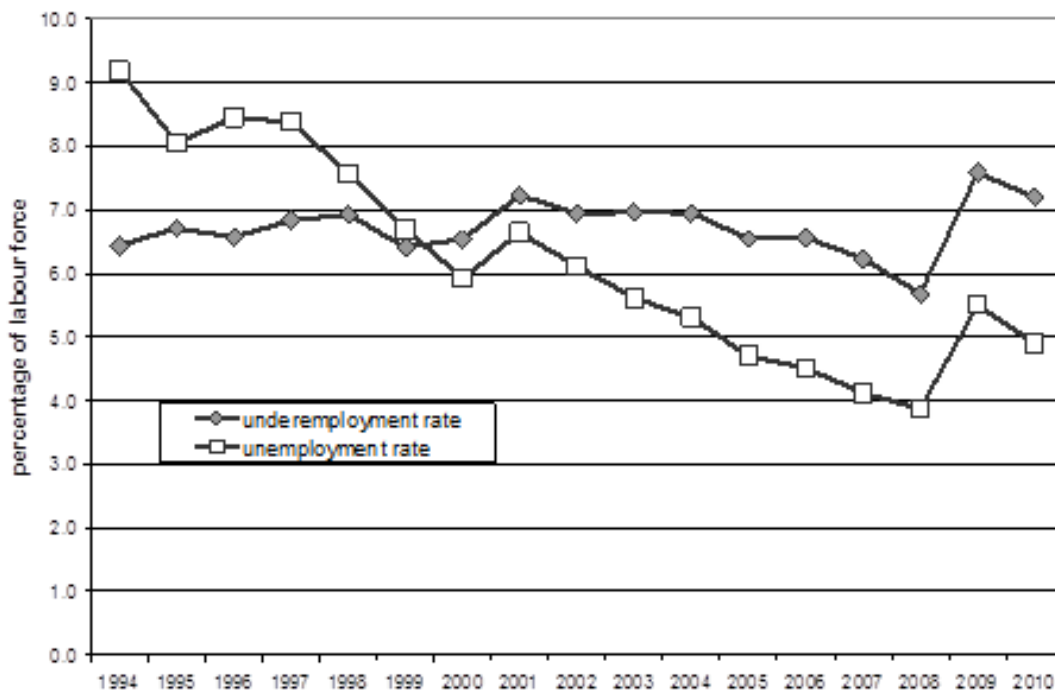
As explained in the Appendix, several slightly varying measures of underemployed workers are used in the extant statistics. We use data based on varied measures. In following the ABS data, we rely first of all on a measure of underemployed workers (availability defined in terms of the reference week), which is used in quarterly Labour Force Survey (LFS) data. However, because we are linking up with HILDA data, we also pay special attention to data based on the category 'part-time workers who would prefer to work more hours'. We can note here that the HILDA data are unweighted, and the purpose is not to develop precise estimates but rather to sketch out in terms of selected characteristics broad comparisons between the underemployed and the unemployed, other part-time workers and full-time workers.

2.4.1 Trends

Both unemployment and underemployment rates are influenced by the business cycle (Wilkins & Wooden 2011, p.22). Figure 1 uses annual data (August figures) from 1994 to compare the familiar story of movements in the unemployment rate with the less familiar story of movements in the underemployment rate (here defined analogously to the unemployment rate as underemployed workers as a proportion of the labour force). The data cover the period of prosperity and economic growth after the recession of the early 1990s and then the deterioration of conditions associated with the GFC in 2008–09. Both unemployment and underemployment rates jumped up in 2009. But also interesting is the differing trends in the data in the period prior to the GFC. Whereas the unemployment rate steadily declined from just over 9 per cent in

1994 to around 4 per cent in 2008, the underemployment rate remained largely steady at around 6 to 7 per cent of the labour force during the first 10 years of the economic recovery, followed by just a gentle decline after 2004. This suggests that, in addition to the business cycle, other influences are at play. The result of the differing trends since the mid-1990s is a shift in the relative significance of unemployment and underemployment. Since 2000 the number of underemployed people has been higher than the number of unemployed people.

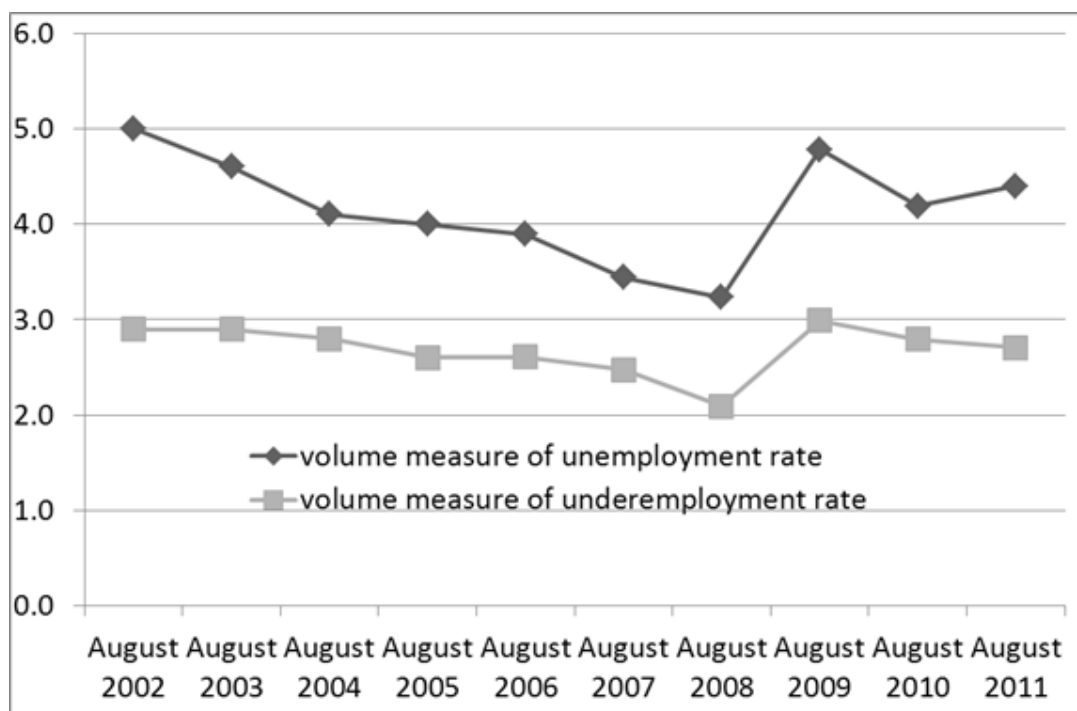
Figure 1: Unemployed and underemployed rates, Australia, 1994–2010



Source: ABS 2011a

Figure 1 is based on the headcount measures of both unemployment and underemployment. Figure 2 shows the volume measure, but only since 2002 when data became available. It reveals a similar pattern of differing trends in the period prior to 2008. However, in contrast to the headcount measure, the volume measure indicates that unemployment remains more important than underemployment.

Figure 2: Unemployment and underemployment in hours, persons, Australia, 2002–11



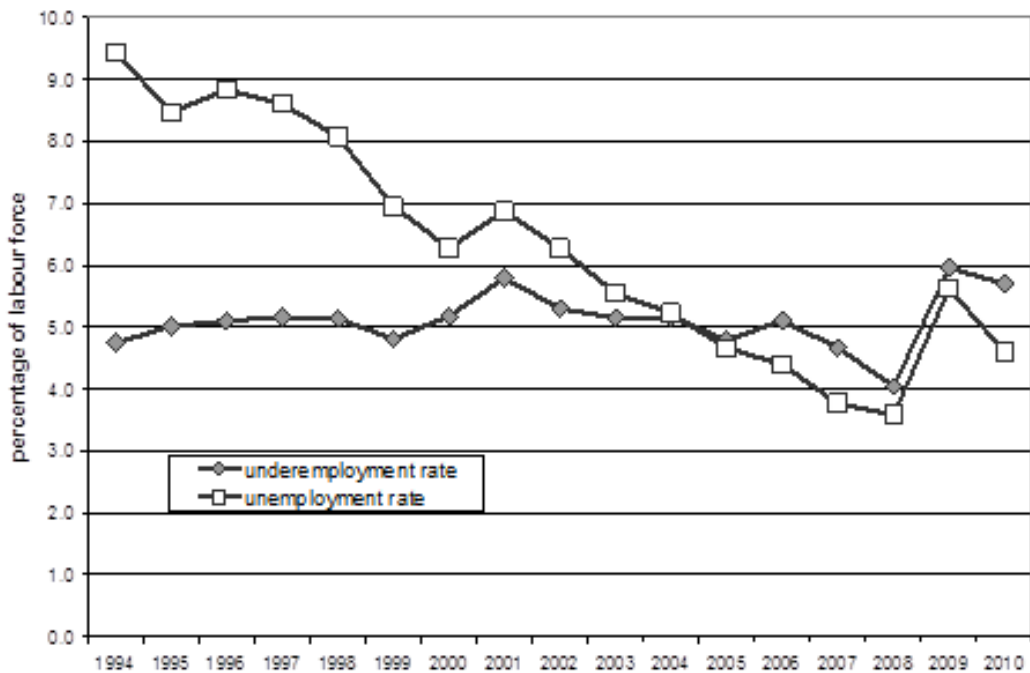
Source: ABS, 2012

Mitchell and Muysken (2008) suggest that the explanation for the differing trends apparent in Figures 1 and 2 can be traced back to the early 1990s. They argue that the recovery from the 1991 recession differed radically from the recovery after the 1982 recession, in that full-time employment only recovered slowly while the number of part-time jobs, often offering only sub-optimal hours of work, accelerated. The first decade of this century has been described as the ‘quiet decade’ (Borland 2011), but the evidence here points to the unfolding of long-term trends with great significance for research and policy.

2.4.2 Profile

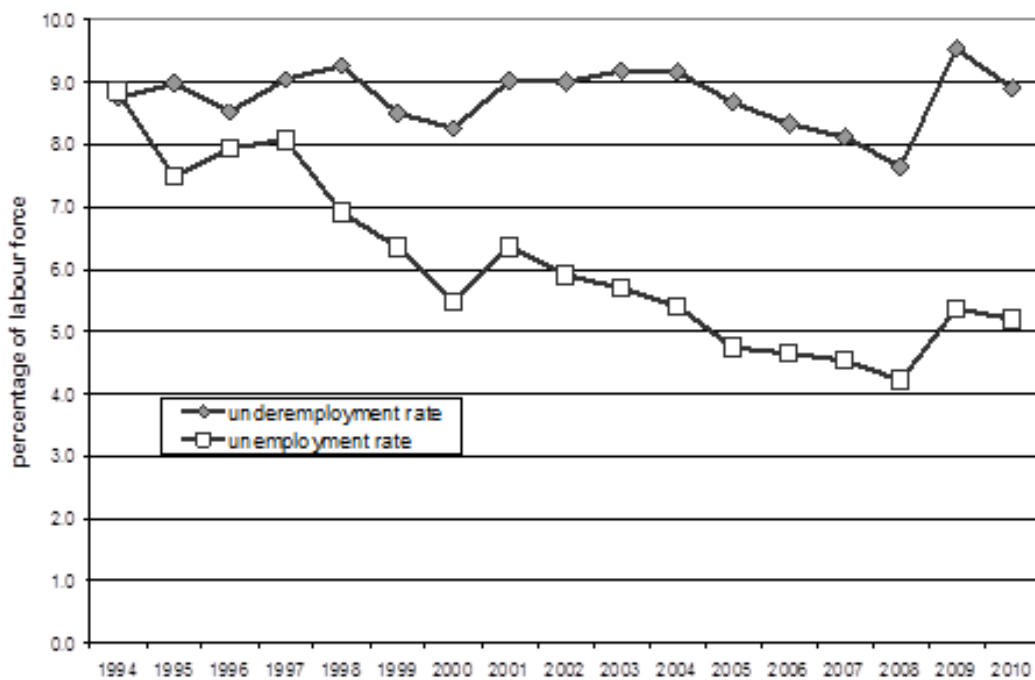
Figure 1 presents the basic story of underemployment in Australia. However, it is also useful to disaggregate such data in order to describe the characteristics of the underemployed. We start with sex, using data from the same source, but differentiated according to sex (Figures 3 and 4). These figures indicate that underemployment rate has an important gender dimension. The trajectory of change since 1994 is similar for both sexes and largely mimics that described for all people. However, there is a notable difference in the relative significance of unemployment and underemployment. For males, the underemployment rate only converged with and surpassed the unemployment rate in 2005, and it remained relatively modest—at around 5 per cent of the labour force—for most of the period covered. For females, on the other hand, the underemployment has been higher than the unemployment rate from the very beginning of the series in 1994, and it has always been markedly higher than for males—generally bouncing along at around 8 to 9 per cent. In short, for women, in particular, underemployment is a significant feature of contemporary patterns of labour market participation. The substantial differences between the sexes in terms of the level of underemployment highlight the necessity of broadening out gender comparisons of labour market disadvantage beyond the narrow frame of the small differences in unemployment rates.

Figure 3: Unemployed and underemployed males, Australia, 1994–2010



Source: ABS 2011a

Figure 4: Unemployed and underemployed females, Australia, 1994–2010



Source: ABS 2011a

As the previous two figures suggest, underemployed people are disproportionately female. Table 1 shows 2009 HILDA data for the sex composition of the unemployed, the underemployed (here defined as part-time workers who expressed a preference for more hours), other part-time workers and full-time workers. Underemployed workers are more often female than either the unemployed or the full-time employed.

Table 1: Labour force categories and sex, Australia, 2009

	Underemployed ¹	Other part-time	Unemployed	Full-time employed	Total population ²
Sex (%)					
Male	37.4	25.0	53.4	63.6	47.5
Female	62.6	75.0	46.6	36.4	52.5
N	882	1875	500	5792	13301

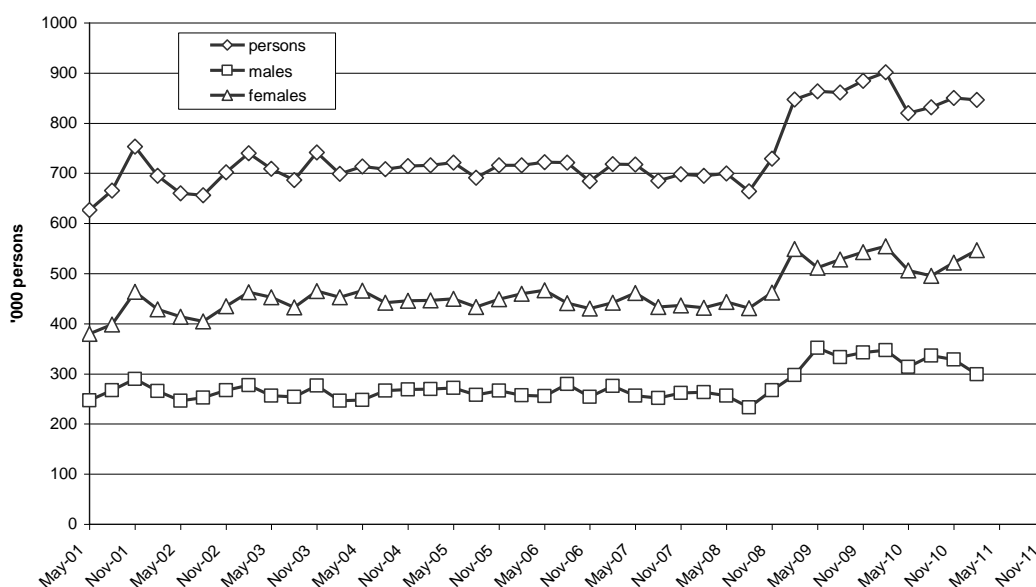
¹ Part-time workers who would prefer more hours

² Includes people whose usual hours were unknown + persons not in the labour force

Source: 2009 HILDA, all unweighted responding individuals

The next two figures use quarterly ABS data on the number ('000 people) of part-time workers who prefer more hours. Figure 5 presents the data since 2001 differentiated by sex. It allows us to see the relative stability, defined in thousands of people, of underemployment for much of the period, broken by the sharp upturn at the onset of the GFC crisis in November 2008, when the number of underemployed workers rose from just over 600 000 to around 900 000 (in February 2010). Once again, we can see that the trends are similar for each sex but that underemployment is more significant for women than for men.

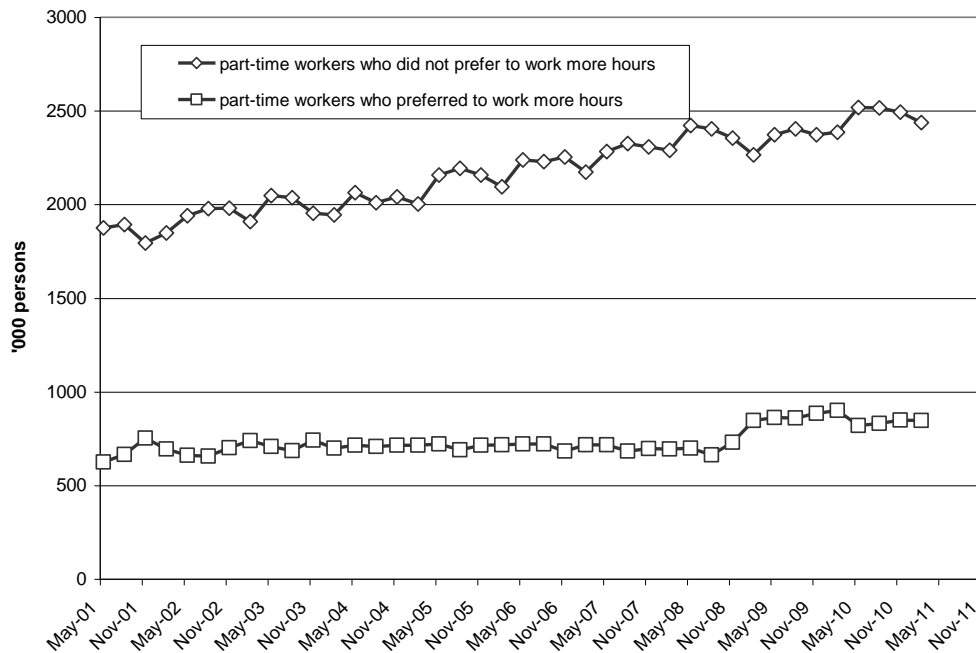
Figure 5: Part-time employed persons who preferred to work more hours, by sex, Australia, May 2001–February 2011 ('000)



Source: ABS 2011b

Figure 6 distinguishes between part-time workers who state a preference for more hours and other part-time workers. The line for the former is the same as the line in Figure 5 for people, showing stability for much of the period and then a jump from November 2008. However, we can now see that this stability occurred at the same time as a steady rise in the number of part-time workers who did not prefer to work more hours.

Figure 6: Part-time workers, whether preferred to work more hours, Australia, May 2001–February 2011



Source: ABS 2011b

So far we have been looking at the aggregate group of part-time workers. Table 2 disaggregates stated working-time preferences according to the hours actually worked in the reference week. It shows, as could be expected, that the proportion of part-time workers who stated a preference for more hours was higher amongst those working relatively short hours (one to 15 hours per week). Moreover, Table 2 also underlines gender differences. Though both men and women had the same pattern of preferences, with short hours workers more likely to express a preference for more hours, male part-time workers in all brackets had a higher stated preference for more hours than their female counterparts. However, the table shows that only a minority of all part-time workers in all hours brackets stated a preference for more hours.

Table 2: Part-time workers who would prefer to work more hours, by sex, by actual weekly hours brackets, February 2011

	Males		Females		Persons	
	Part-time workers who would prefer more hours (%)	Total part-time ('000)	Part-time workers who would prefer more hours (%)	Total part-time ('000)	Part-time workers who would prefer more hours (%)	Total part-time ('000)
Extra hours preferred						
0	27.7	80.9	24.2	198.5	25.2	279.4
1–15	34.2	355.7	28.4	799.0	30.2	1154.7
16–29	31.6	361.3	21.6	974.9	24.3	1336.2
30–34	26.3	155.5	17.1	358.8	19.9	514.3
<i>Total</i>	31.4	953.4	23.5	2331.1	25.8	3284.5

Source: ABS 2011b

The mean preferred number of extra hours per week for underemployed part-time workers was 14 at the latest count in September 2010 (ABS 2010a). The majority (54.5%) of all part-time workers who would prefer more hours stated a preference for full-time hours (ABS 2010a).

Another important personal characteristic is *age*. Table 3 shows that underemployment is distributed throughout the varied age groups, though it tends to be concentrated in younger age groups. The profile it most closely resembles is that of the unemployed. However, there are some notable differences in the age groups for 35–44 years and 45–54 years, where underemployment continues to have a strong presence while unemployment recedes somewhat in importance.

Table 3: Labour force categories and age, Australia, 2009

	Underemployed ¹	Other part-time	Unemployed	Full-time employed	Total population ²
<i>Age groups (%)</i>					
15–19 years	25.4	16.1	29.8	3.7	10.1
20–24	17.1	9.4	20.2	11.3	9.6
25–34	13.3	12.4	18.0	23.2	15.8
35–44	17.7	20.4	13.6	23.4	17.4
45–54	16.0	19.4	10.8	25.0	17.8
55–64	9.8	16.3	6.4	12.1	13.5
65+	.8	6.0	1.2	1.3	15.8
N	882	1875	500	5792	13301

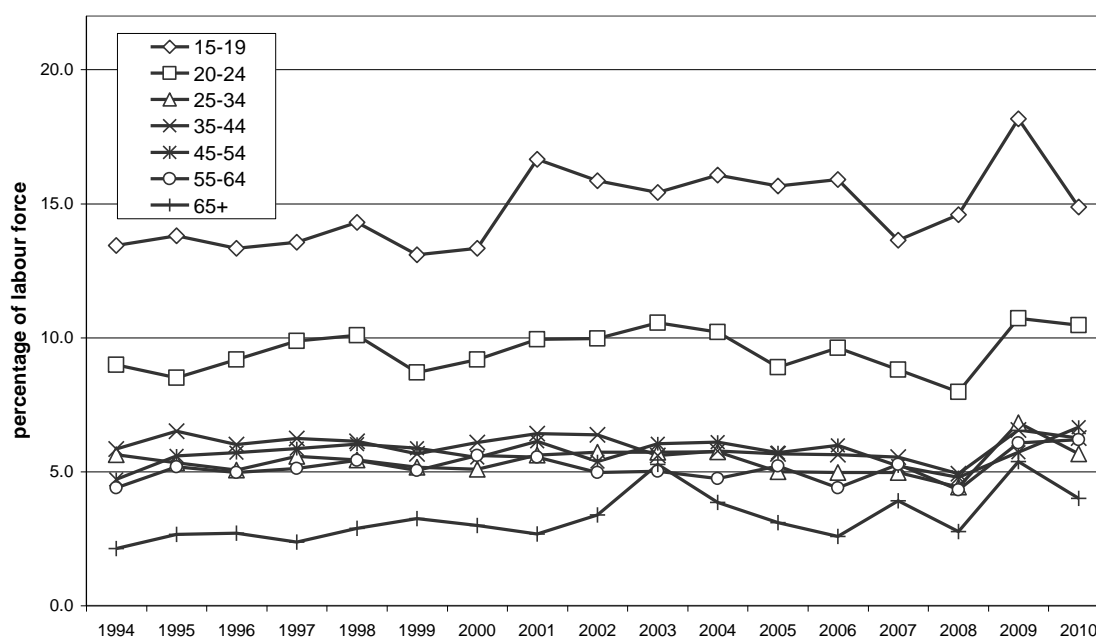
¹ Part-time workers who would prefer more hours

² Includes people whose usual hours were unknown + people not in the labour force

Source: 2009 HILDA, all unweighted responding individuals

ABS data allow us to examine the trends according to age since 1994 (Figure 7). The data are presented in terms of the percentage of the labour force in each age bracket. Figure 7 confirms that the impact of underemployment, like unemployment, is the strongest in the younger age groups, but it also shows a surprisingly high level of 5 to 6 per cent for all the other age groups up to the age of 65. There is little evidence of much difference in trends, although the change for the youngest age group (15 to 19 years) is perhaps particularly volatile.

Figure 7: Underemployment rates by age, persons, Australia, 1994–2010



Source: ABS 2011a

Table 4 indicates that in terms of *relationship in the household*, a substantial proportion of the underemployed appear as either dependent students (11.9%) or non-dependent children (15.3%). But they are outnumbered by those who appear as ‘husband, wife or partner’ (45.4%) or ‘lone parent’ (8.9%).

Table 4: Part-time workers who would prefer to work more hours, by sex, by relationship in household, Australia, September 2010 (‘000)

	Males	Females	Persons
Family member			
Husband, wife or partner	133.4	237.8	371.3
Lone parent	*4.0	68.5	72.5
Dependent student	46.2	50.9	97.1
Non-dependent child	61.0	63.8	124.8
Other family person	12.1	11.8	23.8
Non-family member			
	54.6	63.4	118.0
Relationship not determined	*4.1	*5.7	9.8
<i>Total</i>	315.3	501.8	817.1

*estimate has a relative standard error of 25 to 50 per cent and should be used with caution Source: ABS 2010a.

Table 5 examines the *residential location* of the underemployed, using one familiar ABS classification of regions. As this table indicates most of the underemployed people are in major cities. However, the concentration in major cities is less than for the other labour force categories, including even the unemployed. The major area of concentration for the underemployed appears to be in the ‘inner regional’ areas.

Table 5: Labour force categories and regional distribution, Australia, 2009

	Underemployed ¹	Other part-time	Unemployed	Full-time employed	Total population ²
<i>Region (%)</i>					
Major City	57.4	62.1	59.2	64.2	61.4
Inner Regional	29.7	25.0	26.0	21.7	24.7
Outer Regional	11.7	10.7	12.6	11.6	11.8
Remote	.7	1.8	1.6	2.1	1.7
Very Remote	.6	.3	.6	.5	.4
N	882	1875	500	5792	13301

¹ Part-time workers who would prefer more hours

² Includes people whose usual hours were unknown + people not in the labour force

Source: 2009 HILDA, all unweighted individuals

Job characteristics include aspects such as sector of employment, industry and occupation. Table 6 shows *sector of employment*. As in the case of other employment categories, the majority of underemployed workers are employed in private for profit organisations. However, they are more concentrated in this sector than other categories. Part-time workers in general are fairly even spread through all the sectors. However, the data here suggest that a larger proportion of the part-time jobs in the private for profit sector, compared to other sectors, are occupied by workers who want more hours.

Table 6: Employment categories and sector of employment, Australia, 2009

	Underemployed ¹	Other part-time	Full-time employed	Total employed population ²
<i>Sector of employment (%)</i>				
Private for profit	80.5	70.8	70.7	71.7
Government business enterprise or commercial statutory authority	1.7	3.4	4.9	4.2
Other government organisation	10.0	17.2	18.2	17.1
Private not for profit	7.8	8.6	6.1	6.9
N	872	1867	5774	8541

¹ Part-time workers who would prefer more hours

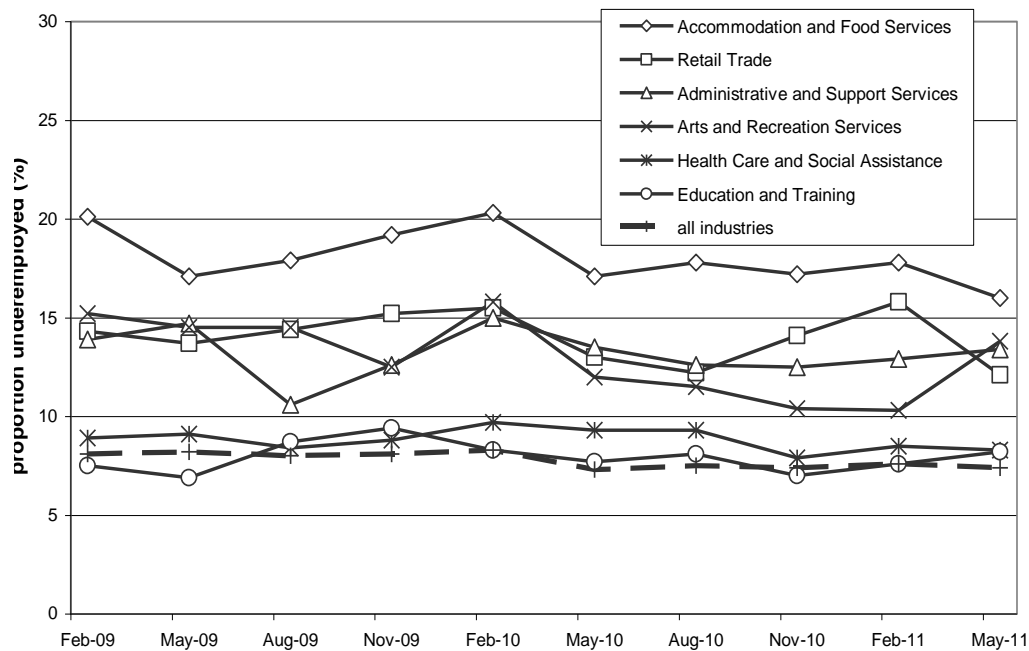
² Includes people whose usual hours were unknown

Source: 2009 HILDA, all unweighted individuals

Figure 8 uses quarterly data on the underemployed as a percentage of the workforce in selected industries to show trends in the most recent period since February 2009 (when the quarterly data became available). We have selected the industries with

higher than average proportions of underemployed people. This figure indicates that the highest proportions are in two major industries—accommodation and food services and retail trade—but also with relatively high proportions in administrative and support services and in arts and recreation services. The figure also indicates that the significance of underemployment in most industries has remained high since the onset of the GFC crisis.

Figure 8: Proportion of workforce underemployed, selected industries, Australia, February 2009–May 2011



Source: ABS 2011c

Underemployed part-time employees are more likely than other part-time employees to have 'casual' status in their job, i.e. to have a job with no paid leave entitlements (for a discussion of definitions of casual see ABS 2008). HILDA data indicate that more than two-thirds of underemployed part-time workers are in casual jobs, while less than one-third are in permanent or ongoing jobs (Table 7; see Watson et al. 2003, p.39). The data suggest that there is an overlap between underemployment and casual status (though it is also necessary to remember that the majority of casual employees do not express a preference for more hours and that underemployment also reaches into the ranks of permanent part-time employees). Similarly, according to 2007 ABS data, 28 per cent of casual part-time employees, as opposed to 16 per cent of other part-time employees, stated that they preferred to work more hours (ABS 2009a, p.22).

Table 7: Employment categories and casual status, Australia, 2009

	Underemployed ¹	Other part-time	Full-time employed	Total employed population ²
<i>Casual status (%)</i>				
Casual	68.2	51.8	10.7	25.8
Permanent	31.8	48.2	89.3	74.2
N	762	1553	4885	7218

¹ Part-time workers who would prefer more hours

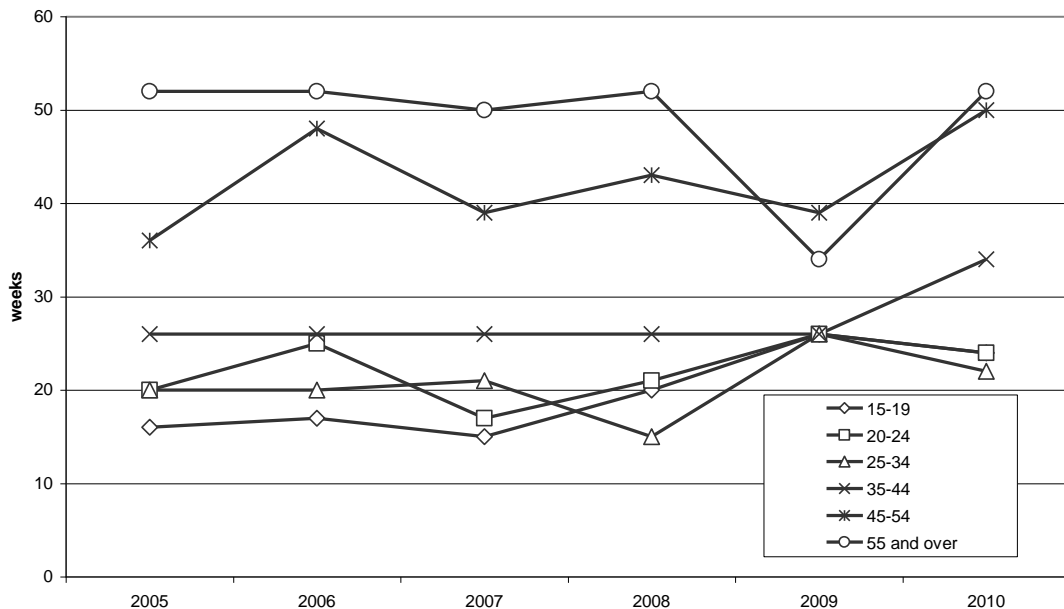
² Includes people whose usual hours were unknown

Source: 2009 HILDA, all unweighted responding individuals, ABS definition defining whether casual or permanent

2.4.3 Transitions

If we want to assess the impact of underemployment, we have to consider whether it is persistent and/or recurrent. We will be examining the issue in more detail in the course of the project, exploiting the longitudinal properties of the panel data in HILDA. However, it is worth noting here the ABS data for underemployed part-time workers on median duration of insufficient work by age group. Figure 9 presents the changes since 2005. As in the case of unemployment, underemployment tends to last longer for the older age groups. Similarly, as in the case of unemployment, we can see some evidence of a lengthening in the duration of underemployment when the business cycle turned down.

Figure 9: Underemployed part-time workers, median duration of current period of insufficient work (weeks), by age group, 2005–10



Source: ABS 2010a and various issues

2.4.5 Other aspects of labour insecurity

In order to appreciate the likely impact of underemployment, it is also important to identify the overlap with other aspects of labour insecurity. There is some evidence that the underemployed are vulnerable to a *combination* of forms of labour insecurity. Direct data that are readily available are sparse. However, as noted above, most underemployed part-time workers have a job with casual status. We know from other ABS data that casual employees not only lack standard employment benefits such as annual leave but also suffer deficits in different dimensions of labour security. Employment insecurity as a result of ease of dismissal is one feature. Though some casual employees are in patterns of regular, long-term employment, many are in patterns of intermittent employment, characterised by brief intervals of employment in short-term jobs that are marked by high turnover (see ABS 2009b). Income insecurity and working-time insecurity are also important. Casual employees are in general low-wage workers (Watson 2005). In addition, ABS data suggest that over half (52.9%) of casual employees had earnings that varied from pay to pay (compared to 17.2% of employees with paid leave entitlements) (ABS 2009c). Similarly, 35 per cent of casuals stated that their hours varied from week to week, with the majority of those whose hours varied feeling that they had no minimum (ABS 2007b, 2009c; see also ABS 2009a, p.22). This variation is unlikely to be regular and predictable.

It is likely that by virtue of their casual status, most underemployed part-time workers will also suffer deficits in labour security, including in particular a fundamental lack of certainty about their income and hours. We will explore the overlap between underemployment and other aspects of labour insecurity in more detail in the course of our project, using the opportunities opened up both by ABS data from the 2007 Survey of Employment Arrangements, Retirement and Superannuation (SEARS) survey (ABS 2007b) and by HILDA data.

Some data on underemployed workers and labour insecurity is available from our simple trawl through Wave 9 of HILDA data. Table 8 offers some results for indirect indicators of employment insecurity from HILDA. They indicate that underemployed part-time workers tend to have less tenure with their current employer, and they estimate a higher probability both of voluntarily leaving their job in the next 12 months and losing their job in the next 12 months. This suggests a higher turbulence in their employment. We can note here that underemployed part-time workers are slightly more likely than other workers to be employed in more than one job. This is perhaps another indicator of instability in employment. It is somewhat surprising since multiple job holding appears as one way, in which workers can move out of underemployment, but the data suggest that multiple job holding is not always a solution.

Table 8: Employment categories and selected indicators of employment insecurity, Australia, 2009 (a)

	Underemployed ¹	Other part-time	Full-time employed	Total employed population ²
<i>Indicators of employment insecurity</i>				
Tenure with current employer (years)	3.7	6.7	7.5	6.9
Percent chance of voluntarily leaving job in next 12 months	36.9	26.3	21.8	24.4
Percent chance of losing job in next 12 months	16.9	10.6	11.7	12.0

a) This table presents mean scores

¹ Part-time workers who would prefer more hours

² Includes people whose usual hours were unknown

Source: 2009 HILDA, all unweighted responding individuals

Similarly, Table 9 indicates that underemployed part-time workers have more instability in their schedules. They are less likely than other workers to have a regular daytime schedule. They are more likely to be regularly employed in non-social periods such as evening and nights. They are also more likely to be employed on an irregular schedule and on an 'on call' basis. The table points to the differences between full-time work and part-time work, where the latter is often used to realise flexibility for employers by plugging difficult gaps in schedules. But what is perhaps most interesting is the evidence that underemployed part-time workers seem to be particularly disadvantaged in this way.

Table 9: Employment categories and current work schedule, Australia, 2009

	Underemployed ¹	Other part-time	Full-time employed	Total employed population ²
<i>Current work schedule</i>				
A regular daytime schedule	52.5	64.4	80.9	74.2
A regular evening shift	10.4	7.6	1.3	3.6
A regular night shift	4.1	2.8	1.3	1.9
A rotating shift	8.2	8.3	7.7	7.9
A split shift	2.2	1.4	1.3	1.4
On call	4.0	1.8	1.0	1.5
Irregular schedule	18.1	13.5	6.3	9.2
Other	0.6	0.2	0.1	0.2
N	882	1875	5790	8573

¹ Part-time workers who would prefer more hours

² Includes people whose usual hours were unknown

Source: 2009 HILDA, all unweighted responding individuals

2.5 Australia in cross-national comparison

Underemployment is discussed, at least sporadically, not only in Australia but also in other industrialised societies. The phenomenon was regarded in the past as most relevant to industrialising countries. But it is acquiring renewed relevance in industrialised countries, where recent labour market changes are pushing underemployment more to the fore. Thus, part-time employment has become more important as a component of the workforce in many industrialised countries (OECD 2010a). Though part-time employment is generally consonant with part-time workers' wishes, some may not be able to get the number of hours they want and may therefore be counted as underemployed. Drawing the link with industrialising countries, some scholars have warned of a process of informalization in industrialized countries, where poor quality part-time jobs provide a conducive environment for the growth of underemployment (Slavnic 2010).

There is a robust discussion of underemployment in the Nordic countries (e.g. Kjeldstad & Nymoer 2011), where it is sometimes discussed as 'part-time unemployment' (Jonsson & Nyberg 2009). A similar discussion takes place in France, where it is linked to demand side changes in employer strategies (Comte 2005).

The experience of working hours and jobs in the GFC attracted attention in many countries. Firms in some countries were able to cushion the effects of the downturn with short-time working schemes, whereby employed workers stayed in work but their working hours declined (Crimmann et al. 2010; Hijzen & Venn 2011). As a result, the unemployment rate remained relatively unchanged (or rose only moderately), while aggregate hours fell, undoubtedly with some spillover into higher rates of underemployment.

Using data on underemployed workers for the purposes of cross-national comparisons is perilous because of the prevalence of different measures and the relative absence of comparable data (Wilkins & Wooden 2011; ILO 2009; see Appendix 1). Nevertheless, we can draw some insights from national data assembled by the International Labour Office (ILO) in their *Key Indicators of the Labour Market* (KILM) (ILO 2009). Where data can be obtained from working-time preferences, scholars have been able to conduct useful cross-national analyses that help both to identify working-time gaps and to define new policy initiatives (Lee 2004; see Bielski et al. 2002).

Campbell (2008) suggests that Australia, in cross-national comparison, has a relatively low unemployment rate but that its underemployment rate is high. In a recent analysis of national experiences during the GFC recession, the OECD concurs. It notes that Australia was not affected so severely in the recession and continues to boast a relatively low unemployment rate. But the hidden story here is underemployment: 'despite having a lower than average unemployment rate, overall slack in the labour market is actually higher than the OECD average' (OECD 2010b).

3 EXTENDING THE SCOPE OF LABOUR AND HOUSING RESEARCH TO THE UNDEREMPLOYED

The previous chapter includes a review of literature on underemployment. This chapter starts with a review of literature from the housing side, seeking to draw out conclusions from the existing literature on changing labour markets and housing outcomes, in particular housing security. In this way we aim both to define the spaces where we intend to contribute to the housing research and policy literature and to identify helpful methods and paths of analysis for our research project. To extend the discussion of methods and possible paths of analysis, this chapter also briefly considers studies of the consequences of underemployment for features such as wellbeing.

The theoretical and empirical literature making connections between adverse labour market conditions and housing security outcomes is vast, spanning many cycles of economic growth and decline. At the risk of over simplifying, this body of work can be broadly divided according to whether the primary focus of inquiry is: 1) the role of labour market position as a cause and hence predictor of adverse housing outcomes (i.e. Berry et al. 2009; Horsewood & Doling 2004; Ford et al. 2001; Böheim & Taylor 2000; Clark & Withers 1999; Berry et al. 1999) or 2) the role of housing position as a cause and predictor of adverse labour market outcomes (i.e. Hulse & Randolph 2005; Flatau et al. 2004; Oswald 1996). While researchers typically focus on one side or the other, it is generally acknowledged that the relationship between labour markets and housing outcomes is multi-directional, mediated by many interacting micro household and macro institutional conditions (Berry 2006a).

3.1 Changing housing markets

The long-run persistence and increase in the rate of underemployment over the past two decades, noted in the previous section, has occurred alongside significant changes within housing markets. Whilst we can speculate on the many social and economic processes driving these changes, it is well established that private rental and purchased housing have become less affordable and access to social housing has become more difficult for low-to-moderate income working households (Abelson et al. 2004; Yates et al. 2007; AIHW 2007).

Numerous studies have thoroughly documented the shortage of private rental housing affordable to low-income households (Wulff & Maher 1998; Yates & Wulff 2001; Yates et al. 2004). Declining affordability for renters has been most pronounced in the last decade with annual increases in real rent of 1 per cent (Yates 2008, p.208). Low-income private renters are especially vulnerable to rising rents with around two-thirds (65%) found to be experiencing housing stress between 2002 and 2003 (Yates & Gabriel 2006, p.40).³

More recently, policy analysts and academics have questioned whether presently high rates of home ownership are sustainable, as first home buyers grapple with soaring real house prices (Beer et al. 2006; Green 1996). Rapidly rising house prices have made it more difficult for many younger low-to-moderate income households to enter into home ownership (Yates 2007a). At the same time, those who have gained entry face volatile repayment burdens as interest rates fluctuate, with real rising housing costs outpacing incomes in some periods (Yates et al. 2007; Yates 2008).

³ Households are defined as living in housing stress if their housing costs exceed more than 30 per cent of their equivalised household disposable income and they are in the bottom 40 per cent of the income distribution.

The concept of housing security has received increasing attention from academics and policymakers in recent years. As noted above, we follow this path of research and prioritise the notion of housing security in our research project. As our housing systems have evolved, severe housing shortages (where the housing stock is insufficient to house the population) have receded in developed countries, and the cultural meanings of housing security have extended beyond the purely legal right to shelter and now include the social, psychological, symbolic and existential meanings that can be derived from a home or place in which we develop our sense of safety and continuity (Minnery et al. 2003, Hulse & Saugeres 2008, Parkinson 2010). Housing that is secure, i.e. certain and safe, allows residents to plan ahead with minimal anxiety about the future and to choose whether and when to stay or leave. On the other hand, housing insecurity arises when circumstances are such that residents cannot plan ahead, because their housing arrangements are threatened by financial factors, insecure tenancy arrangements or some other hazards (e.g., poor health and fears of violence). Housing insecurity also arises when individuals and families are excluded from conventional or culturally accepted forms of housing, such as the homeless⁴ or the marginally housed. Housing insecurity can thus be experienced amongst those living in conventional through to non-conventional housing arrangements.

Housing security is a more complex notion than (say) housing affordability, because it is multidimensional. This complexity poses challenges for measurement, which we consider in Chapter 4.

As the GFC impacted on housing markets, even established home owners came under threat, with mortgage foreclosures increasing in many countries. In Australia some of the impact for purchasers was softened by a rapid reduction in interest rates by 4 percentage points between September 2008 and February 2009. In January 2009 arrears on prime loans reached the highest recorded peak since 1996, but then began to trend downwards from March 2009 (Standard & Poors 2009, pp.viii–ix).

3.2 Unemployment, insecure employment and the working poor

Adverse housing outcomes are commonly linked to labour market factors such as increasing wage inequality and persistent unemployment among disadvantaged groups. Though rates of underemployment have steadily increased and even surpassed rates of unemployment, the role of underemployment in relation to adverse housing outcomes, including housing insecurity, has been neglected. This is surprising since underemployment and low incomes are likely to go ‘hand in hand’, and so rising rates of underemployment may be a principal cause of housing affordability stress, particularly if affecting those in the household who are mainly responsible for housing payments. Moreover, evidence of substantial overlap between underemployment and insecure jobs naturally leads to speculation about links with housing insecurity. Between 2001 and 2009 it is thought that one in four Australian homeowners (of all ages) lost home ownership status, and we know that measures of financial stress are correlated with such transitions (Wood & Ong 2009; Wood et al. 2010).

Though underemployment has not attracted much attention in relation to housing insecurity, there is a solid body of research that investigates the relationship of

⁴ Chamberlain and MacKenzie (2003) define primary homelessness (without conventional housing or ‘sleeping rough’ on the streets), secondary homelessness (living in temporary accommodation including staying with friends) and tertiary homelessness (long-term boarding house use and more recently those renting a caravan as their usual residence).

unemployment (and joblessness), insecure employment and the working poor to housing insecurity. This literature provides a useful starting point from which to explore the housing security consequences of underemployment. A review of the literature can be useful in identifying the knowledge gaps in contemporary housing research and the potential paths of analysis in research on underemployment and adverse housing security outcomes.

Historically, research and policy here and abroad has concentrated on measurement of the housing security and affordability consequences associated with the onset and/or persistence of *unemployment and joblessness*. We know from many years of inquiry that the experience of unemployment and joblessness is unequally distributed, but it nonetheless poses significant hardships across all housing tenure groups, from those experiencing homelessness, or those living in social and private rental housing, even through to outright home owners. This body of research has varied in approach, from studies that draw on national panel datasets, including cross country comparative research (Ermisch & Di Salvo 1996; Böheim & Taylor 2002; Horsewood & Doling 2004, Parkinson 2010; Wood & Ong forthcoming) through more localised case-studies of mortgage arrears, repossessions and place-based poverty following the collapse of localised industries (Weller 2009; Beer 2008; Winter & Bryson 1998), to smaller in-depth studies of housing insecurity amongst low-income renters (Hulse & Saugeres 2008; Beer et al. 2006b) and defaulting home owners (Berry et al. 2009).

Although these studies draw on different approaches, a common theme is that housing insecurity represents the culmination of several interacting household events and longer-term vulnerabilities that impact upon household stability and capacity to pay for housing. Two triggers of housing insecurity noted in this literature are household dissolution and labour insecurity (volatile earnings as a result of job loss or precarious employment). Vulnerability in housing can be exacerbated by the sudden loss of health status as well as more chronic conditions. Low household income is also important, especially amongst single-headed households and those with dependent children. While increased housing risk has traditionally affected the least skilled or most disadvantaged households, rising housing costs can mean that recent home owners, particularly more leveraged buyers, may find themselves falling behind in their mortgage repayments and even defaulting on their homes (Berry et al. 2010; Parkinson 2010).

Research on unemployment and adverse housing outcomes points to the importance of examining transitions into unemployment and its subsequent duration. One important question relevant to our study concerns whether sudden and unexpected job loss or its long-term persistence impacts most forcefully on insecure housing outcomes. The research indicates that both can be important triggers, though household groups are affected differently, contingent on the stage they have reached in their life course, their tenure and the institutional arrangements governing social protection within different countries (Horsewood & Doling 2004; Böheim & Taylor 2000; Ermisch & Di Salvo 1996; Clark et al. 1994). Recent research suggests that the nature of the transition into unemployment, for example if it involves sudden changes in employment circumstances for households, may be particularly important in increasing the risk of housing payment difficulties, evictions and repossessions. For instance, Böheim and Taylor (2000), in modelling financial difficulties, evictions and repossessions, find a positive relationship with unexpected income shocks but a negative relationship with unemployment duration, particularly amongst renters experiencing eviction. Similarly, Parkinson (2010) finds lower odds of payment difficulties and housing insecurity amongst renters and purchasers with three years of non-participation in the labour market, compared with those experiencing episodic or discrete periods of employment participation.

One possible explanation for these findings is the idea that households adjust their housing consumption to match the permanently lower incomes that accompany longer-term spells of non-participation.⁵ On the other hand, those churning in and out of employment as labour market circumstances change in unexpected ways have volatile incomes that are not conducive to meeting the long-term financial commitments that mortgages and rental leases entail. Housing is a lumpy, durable asset whose consumption cannot be quickly adjusted to meet unexpected changes in capacity to pay (Maclennan 1982).

A policy discourse around flexible labour markets has emphasised mobility and in particular whether households can move easily to access employment opportunities (Clapham 2005). Housing related impediments to mobility first came to prominence as a policy issue with the high rates of unemployment accompanying stagflation in the 1970s and early 1980s. Some policy analysts identified inflexible allocation policies of public housing authorities as a cause of high rates of unemployment, because they deterred tenants from moving in search of work (Hughes & McCormick 1990). The empirical evidence suggests that skilled private renters, followed by skilled home owners are the most mobile during spells of unemployment while social renters and unskilled groups are the least mobile in response to unemployment (Dohmen 2005; Ermisch & Di Salvo 1996).

When lower income groups do move, it is more often motivated by housing affordability concerns than for job search reasons (Marshall et al. 2003; Dockery 2000; Wood & Ong forthcoming). For this reason, low-income workers are often priced out of job-rich areas, causing a *spatial mismatch* between jobs and housing opportunities (Berry 2006b; Dodson 2005; Randolph & Holloway 2007). Mobility decisions are strongly influenced by the employment composition of the total household, with single-headed households or those with a single earner more likely to move following job changes compared to those with a second earner (Clark & Withers 1999). In addition to constraints within existing and potential housing options, the immobility of households is likely to be shaped by a 'tangled web' of competing household demands including the location of the partner's employment and arrangements for child care and schooling (Jarvis 1999). The multiple constraints that households face in relocating in search of better employment opportunities suggest that many are likely to become 'trapped in place'.

One solution to underemployment is to combine two or even more part-time jobs (Campbell 2008, p.171), but spatial mismatch takes on an added significance when we consider such multiple job holding. Combining two or more part-time jobs is much more difficult when living far from the job-rich CBDs or clusters of employment in urban growth corridors. The increasing income segregation that is more and more evident in Australian cities (Wulff & Reynolds 2011) could therefore be a cause of the rising rates of underemployment and growing fears about housing insecurity.

Some housing researchers examine the housing security consequences associated with a growth in precarious or *insecure forms of employment*. This research has primarily focused on volatile and uncertain earnings and the disruptive impact that this has both on capacity to pay for current housing and on plans to meet future housing aspirations. There is mounting evidence within this field of inquiry that those with non-permanent employment and self-employment are particularly vulnerable. For some 'working insecure households', losing a small amount of their income, fluctuating work

⁵ Household consumption strategies have been thoroughly investigated in the sociology literature. This pattern of adjustment is consistent with the behaviour analysed in that literature (Duggan & Sharam 2004; Wallace 2002; Nettleton & Burrows 2001; Jarvis 1999).

hours, reductions in paid overtime and lower pay in a new job following loss of employment, have all been linked to an increased likelihood of financial difficulties with housing costs (Forrest & Kennett 1997; Ford & Wilcox 1998; Burrows 1998; Burrows & Ford 1998; Böheim & Taylor 2000; Perrons 2000; Croft 2001; Horsewood & Doling 2004; Berry et al. 2009; Parkinson 2010).

In addition to the unemployed and those in insecure work, a third group attracting increasing attention from housing researchers interested in housing insecurity are the '*working poor*'. Overseas studies, particularly those emerging from the US, have documented the spread of homelessness and marginal housing, once the terrain of the long-term unemployed and the disenfranchised, amongst sections of the working population (Kusmer 2002). In the Australian context, the working poor are more often referred to as low-income working households. Generally, this group are considered particularly disadvantaged if they are private renters because their employment status will often leave them ineligible for either Commonwealth Rent Assistance or public housing (Randolph & Holloway 2007).

AHURI's National Research Venture 3 on housing affordability found that more than one-third of lower-income working households were in housing stress during the period 2002–03 (Yates et al. 2007, p.19). Other household groups identified as most at risk of housing stress included low-income private renters, younger households, and those with dependent children, particularly sole parents (Yates et al. 2007, p.19). In a subsequent analysis undertaken by Yates (2007b), it is the same household groups, with the addition of public housing tenants, who are more likely to experience one or more indicators of financial stress compared with other households.⁶ Purchasers were found to experience an increased likelihood of financial stress if they were also living in housing stress, despite their overall smaller numbers compared with renters.

These findings suggest a strong descriptive link between financial stress and housing stress. However, when extending the analysis to multivariate modelling that controlled for income and other household factors, the relationship between financial and housing stress was almost negligible. This led Yates to conclude that those who are in housing stress and financial stress are likely to come from similar types of households and that 'housing stress does not appear to have an independent effect on financial stress' (Yates 2007b, p.44).

While the housing affordability and financial stress research identifies the types of households that are likely to be most vulnerable in their housing, it does not specify the extent to which these high risk households are concentrated amongst the working poor, the underemployed and the jobless. There is evidence to suggest that the type of industry of low-income working households is an important factor, with workers in the highly casualised hospitality and retail sectors having a disproportionate incidence of housing stress (Yates et al. 2006, p.27). Our earlier discussion drawing on ABS figures combined with a preliminary analysis of HILDA reveal that it is these same types of industries that have high proportions of the underemployed.

⁶ Financial stress in this study is based on indicators from the Household Expenditure Survey and includes any one of the following hardships or problems with cash flow because of a lack of money in the past 12 months: sought financial help from friends or family, could not pay utilities on time, could not pay registration/ insurance on time, went without meals, sought help from welfare community organizations, pawned or sold possession, and unable to heat home. The measure of financial stress also includes deprivation indicators, such as not being able to afford: a week's holiday away from home at least once a year; a night out once a fortnight; a special meal once a week; new clothes (buy second hand clothes most of the time); leisure or hobby activities; and family/friends for a meal once a month.

It is intriguing to observe that interest in the working poor has coincided with rising rates of underemployment, though the potential link has been overlooked in most of the literature. Yet it is highly probable that a sizable proportion of the working poor are underemployed and their working poor status is in large part due to binding constraints on work hours. If we are to understand the problems of housing insecurity among the working poor, we must investigate the links with underemployment.

We have learnt from research into the unemployed and their housing circumstances that persistent spells out of work prompt adjustment in housing consumption, particularly moves to cheaper housing and less expensive locations. There is also a belief among some commentators that the longer-term unemployed in social housing become 'trapped', as their continued eligibility for public housing and the low rents charged while unemployed are threatened by the higher income accompanying employment. But the insecurely employed and underemployed with irregular, low earnings may not adjust their housing consumption in the same ways as those with no employment. They may resort to shorter-term strategies to cover housing expenses. Increasing the use of credit, borrowing from housing equity or from friends, seeking income support, as well as a host of other income-generating strategies are possible responses to ease problematic housing circumstances.

This review of literature suggests that rigorous research into the housing security consequences of underemployment is largely absent from the national and international literature to date. Smaller-scale qualitative studies have found links between increased risks of mortgage default and underemployment (Berry et al. 2010), but no study has systematically examined the housing security consequences of underemployment on a national scale. Nevertheless, research into other dimensions of labour market difficulties, such as unemployment, throws up some useful pointers for research into underemployment and housing.

3.3 The consequences of underemployment

Study of the consequences of underemployment for housing security may also benefit from examining the emerging literature that explores the relationship between underemployment and features such as health and material hardship. We can draw on how other researchers in these fields, often using panel data, have rationalised the relationship between underemployment and different dimensions of wellbeing to assist our own research, for example with measurement issues and with choice between alternative methods of estimation in modelling.

A recent study with some methodological relevance (Eamon & Wu 2011) focuses on the association between underemployment and material hardship among single mothers. The study is informed by family stress theory, and the authors employ a validated framework of hardship that separately identifies bill paying, health, food, and housing adequacy components. The study finds that underemployed single mothers (defined as involuntarily part-time or earning less than 125% of the US federal poverty level) were significantly more likely to experience hardship than other employed single mothers. This research provides useful insights into the types of hardship measures that we should be seeking to measure using the HILDA data set and pointers to how we might further develop them from a housing perspective. The analysis of outcomes across different tenures is particularly instructive in pointing to the significance of housing tenure as a mediating variable.

In Australia, contributions using HILDA data focus on differences in dimensions of job satisfaction (Watson et al. 2003), financial wellbeing (Wilkins 2007), and subjective wellbeing (Wooden et al. 2009). Generally, the findings from these studies suggest

that outcomes for the underemployed are inferior to those of their fully employed counterparts but are better than those of the unemployed.

Unfortunately, little attention has been given to the composition of underemployment within total household employment, and how this may mediate or exacerbate consequences, including experiences of insecurity and hardship. The need to further explore this relationship is identified by Parkinson (2010), who finds that households with no permanent employment, and hence a higher likelihood of experiencing arrears in both rental and purchased housing, were more likely to report a preference for more hours. The research points to the need to understand both the broader profile of households adversely affected by underemployment and the way such households respond during different stages of the life course and at different points in the economic cycle.

One important issue here concerns the extent to which the overall household composition, and also the amount paid on housing, may be shaping preferences for more hours of paid employment. For instance, households with only part-time members may be more likely to report that they are underemployed compared with those who combine a part-time and full-time income, because the second income may mitigate the need for more hours.

The potential for reverse causation between underemployment and family income is an issue that Wilkins (2007) touches upon in his analysis. While he finds no differences between female personal income and family income, he identifies significant differences between male personal and family income. Given that female part-time workers are more likely to combine their earnings with a full-time male income earner, Wilkins (2007) concludes that overall family income was likely to influence the desire for more hours of work rather than individual personal income from underemployment being the cause of low family income. He also notes that full-time underemployment (HILDA definition of working 35 hours or above and preferring more hours) was of most concern for males. However, his analysis, drawing only on the first year of HILDA data, did not allow him to adequately test for this complicated issue of reverse causation, where the relationship between underemployment and adverse outcomes could be multi-directional.

Empirical work estimating the strength of relationships between underemployment and measures of wellbeing is bedevilled by uncertainty about the direction of causation. Consider health, for example. There is a good reason to believe that health is adversely affected by underemployment; but equally, ill health can limit employment opportunities, including opportunities to work at a preferred number of hours. So, for instance, the need for regular medical treatment (e.g. dialysis) could prevent full-time work. Panel data offers more robust options in dealing with these issues of reverse causation. In modelling the association between subjective wellbeing and underemployment, Wooden et al. (2009) employ a fixed effects model that also controlled for initial state dependence to address issues of reverse causation. Such an approach may be important in disentangling the mediating role of household characteristics from that of preferences for more hours.

The primary concern of our proposed programme of research is whether underemployment may be associated with heightened housing insecurity amongst different household groups. However, we recognise the need to use methods that enable the two-way direction of causation between labour and housing markets to be isolated.

3.4 Conclusion

The review of the literature in this chapter reveals that underemployment is largely absent from the existing literature on labour market changes and adverse housing outcomes. Our research project promises to fill this major gap in the literature. At the same time, it is clear that our research project does not need to start from scratch; instead it can benefit from the methods and paths of analysis established in prior research on aspects, such as unemployment. In particular, we take account of the need to consider: 1) labour market changes such as unemployment at the household as well as the individual level, 2) the way in which labour market changes impact on different housing tenures; and 3) the importance of transitions and the duration of spells.

With these points as a platform, the next chapter discusses our research strategy to fill the gap in the literature identified in this Positioning Paper.

4 RESEARCH STRATEGY

This final chapter introduces the research questions for our research project, explains the data sources that we propose to use in addressing key research questions and hypotheses, and defines the measures of underemployment and housing security that we deploy in examining the links between these two phenomena. Consideration of measurement issues is followed by discussion of selected methodological problems.

4.1 Research questions

The review of data and literature on underemployment in Chapter 2, together with the review of literature on labour markets and housing in Chapter 3, allow us to refine the main research questions for this project. The review confirms the presumption that underemployment is likely to impact on housing outcomes. However, the precise nature of this impact, including the effect of different mediating factors, remains unknown. In addressing the existing knowledge gaps outlined in this review, our central question is:

What adverse consequences does underemployment have for housing security?

This broad and exploratory central question can be disaggregated into subsidiary questions, starting from those that promise to deepen our understanding of underemployment:

1. Is the rate of underemployment high and rising during the noughties (headcount number and volume)?
2. Has underemployment become a more important source (than unemployment) of labour underutilisation?
3. Is underemployment correlated with other dimensions of labour insecurity?
4. Are underemployment 'spells' typically short-lived or more persistent?

The main focus, however, in the empirical research is on questions that examine in detail the relationship between underemployment and housing insecurity:

5. What are the broad characteristics of the underemployed that may be linked to housing insecurity?
6. Is underemployment associated with relatively high levels of housing insecurity as compared to the adequately employed and the unemployed? How does this vary with housing tenure?
7. Do correlations between underemployment and housing outcomes still hold after controlling for a range of individual and household conditions? What individual and household conditions mediate the impact of underemployment on housing?
8. Is housing insecurity more likely as 'spells' of underemployment lengthen? Is housing insecurity more severe as 'spells' lengthen?

In addition to such research questions, we are interested in the policy implications of our findings on the housing security consequences of underemployment. For example, to what extent do the findings challenge a housing policy based on secure linear housing careers?

4.2 Data sources

In answering the research questions outlined above, our main data source is the HILDA survey. HILDA is a nation-wide household panel survey, based on a large

national probability sample of Australian households occupying private dwellings. Individual interviews are conducted with eligible members of the household, broadly understood as people aged 15 and over, who are described as 'responding individuals'. At the same time, household information encompasses not only these responding individuals but also people aged under 15 years, with the two groups together described as 'enumerated individuals'. The households and the individuals within them are followed at annual intervals, though the number of responding individuals and households in each wave can vary due to attrition and the use of top-up samples. At each annual interview, individuals can also use a calendar to record information on their work and study activities from 1 July in the previous year. In 2001 there were 13 969 individuals responding from 7682 households. By 2009 there were 13 305 responding individuals from 7234 households (see MIAESR 2011, pp.12–19 for more detailed discussion on the representativeness of the survey over time).

Household, Income and Labour Dynamics in Australia (HILDA) is a rich source of information that allows measurement of both underemployment (together with the other categories in our labour force framework) and housing security (see below). While these are the key variables in our study, ample use will also be made of socioeconomic and demographic data that allow us to 'drill down' to particular subgroups in the Australian population, including a comparison of those residing in different tenures.

Household, Income and Labour Dynamics in Australia (HILDA) has several advantages over ABS confidentialised unit record files (CURFs)—the Survey of Income and Housing Costs (SIHC), for example. Apart from anything else, the SIHC survey, in contrast to HILDA, does not suit our purposes because it fails to allow a measure of underemployment. However, perhaps the major advantage of HILDA is that it is a panel survey. Cross-sectional data sets, such as SIHC, do permit 'snapshots' of Australian housing circumstances that can be compared over a long period (from the early 1980s), but they cannot be used to profile the housing and employment pathways followed by the same people. The capacity to describe how housing and employment careers evolve as people age is of critical importance in addressing our key research questions, many of which grapple with the dynamics of underemployment and housing security. A panel data set also permits the use of a more robust set of statistical techniques than would be possible with cross-sectional data sets (see below).

Our research project uses data from the first nine waves of HILDA (a 10th wave was released in 2012, which was too late for the analysis). Thus, HILDA enables us to link individual episodes of underemployment with concurrent household housing circumstances over a period extending from 2001 to 2009. These years encompass periods of boom, with strong economic growth typical from 2001 to 2007, and soaring house prices also featuring over much of this period. The GFC and its consequences are a critical factor in the later post-2007 years. The HILDA data set offers an excellent opportunity to study how housing security was impacted by underemployment in these very different macroeconomic environments. The later period will be particularly interesting, as we would expect the GFC to have precipitated many unexpected spells of underemployment that could constrain capacity to pay for housing, especially amongst private renters who, unlike purchasers, were not provided with any direct relief from adjustments to interest rates.

4.4 Measuring underemployment

In Chapter 2 we presented various definitions of underemployed workers found in official statistics and in the accompanying statistics literature. The simplest definition is in terms of 'part-time workers who prefer more hours' and we included some ABS data that used a measure based on this simple definition.

As noted above, this simple definition can be readily applied to data from many surveys, so long as the survey under review contains both a question that effectively distinguishes full-time and part-time workers and a question on the working-time preferences of the part-time workers. The HILDA survey meets both these conditions. It asks about usual weekly hours in all jobs, and asks workers about how many hours they would like to work, taking into account the effect this would have on their income (Wilkins 2006, p.374). Though the preference question is narrower than that used by the ABS, since it includes the income condition, it is unlikely that this has a major impact on responses for part-time workers wanting more hours. In short, the HILDA data allow us to reproduce one of the standard ABS measures of underemployed workers and thereby allow a good description and analysis of underemployment that can be linked to the discussion and analysis in official statistics.

The questions in the HILDA survey include one asking about the *number of hours* preferred by those who state a preference for more hours. This allows us, like the ABS, to supplement a headcount measure of underemployed workers with a volume measure of underemployment, which would start by measuring the number of additional hours preferred by underemployed workers.

The opportunity to use HILDA data to investigate underemployment has been taken up by several scholars, particularly Wilkins. His analyses start with the ABS statistics and then delve into HILDA data, using the common definition of underemployed workers as part-time workers who prefer more hours (Wilkins 2006, 2007; see also Watson et al. 2003, Baum & Mitchell 2008). The analyses are primarily oriented to headcount measures, but Wilkins also uses volume measures of underemployment (2004, pp.17ff). We follow a similar path in our analysis of underemployment and housing insecurity. We start by constructing a measure of underemployment based on the simple definition of underemployed workers as 'part-time workers who prefer more hours'. As well as headcount measures we also use a volume measure.

It could be objected from the point of view of housing consumption that broader definitions of underemployment to include other workers who express a preference for more hours might also be useful. We could, for example, add in selected groups of full-time workers, for example those working between 35 and 39 hours weekly, or we could add in *all* full-time workers who express a preference for more hours. Such data are available in HILDA. Indeed, on occasion some analysis using HILDA data has included these workers (Wooden & Drago 2009). Broader definitions, however, breach the condition in official definitions that require underemployed workers to be below a certain threshold in the number of their current hours in order to qualify as underemployed. As noted in Appendix 1, this threshold—generally set at full-time weekly hours—is related to the argument that underemployment is to do with *insufficiency* in the number of working hours and that insufficiency should not be reduced to a purely subjective judgment but should also include an objective element. To remove the threshold would reduce the concept of underemployment to a purely subjective judgment, where the connection with low hours, low income and labour insecurity is markedly weakened. Moreover, it would push the definition away from official definitions, thereby impeding the prospect of comparisons with ABS data. We agree with the principle of an objective threshold and would prefer to stay close to the

official definitions in order to preserve the prospect of comparisons with ABS data. However, it may well be that subsequent research may loosen the threshold condition in order to explore further the connections between working-time preferences and housing outcomes.

4.5 Measuring spells of underemployment

We refer above to the need to distinguish the impact of short-term and longer-term underemployment on housing security. In effect, we need to distinguish between short-lived periods (temporary), prolonged periods (long uninterrupted) and recurrent periods (churning) of underemployment. A short bout of part-time work as a business rebounds from a temporary dip in orders might be readily bridged by borrowing, whether by adding to a mortgage (equity borrowing), credit cards or family assistance. On the other hand, entrapment in persistent or recurrent underemployment cannot be so readily bridged, and adjustments that compromise standards of living, including housing wellbeing, are more likely. The longer-term effects are equally, if not more, important; the accumulation of work skills and experience could be slower when the worker is persistently or recurrently underemployed.⁷ Those trapped in underemployment will then fall further behind (in terms of skill levels and experience) the fully employed as they age, making it more difficult to reverse their underemployment condition.

The value of the panel data offered by HILDA is that it allows measures of transition between labour market statuses over extended periods of time. Panel data over a lengthy period such as nine waves allow two basic kinds of measures of the incidence of underemployment (or other labour market status) over a segment of an individual's working career:

1. Of *persistence*, which would be the length of time spent continuously in one labour market status before transition to another status.
2. Of *recurrence* (or *churning*), which would be the number of times an individual enters a particular labour market status over the entire course of the panel.

The length of time spent continuously in one labour market state is commonly referred to as a 'spell'. Measures of persistence and recurrence are then captured by estimates of the duration of spells and the number of spells.

It is important to avoid a definition of spells that is too narrow. We need to anchor our approach in a robust conceptualisation of the nature of the transitions in and out of underemployment. Wooden and Drago confine their measure of persistence to underemployed people who express a wish for more hours at two selected periods—2001 and 2005 (2009, p.73). This is straightforward, but it may not capture the full impact of longer-term underemployment and labour insecurity. A later summary analysis (Wilkins et al. 2011), though only confined to two years, indicates the significance of different paths out of underemployment. Because we are dealing with stated preferences, it is possible for underemployed people to change their preference without any underlying change in their (insecure) employment. Similarly, it is possible for underemployed people to no longer be counted as underemployed, because they have moved into unemployment or not in the labour force status. Only in some cases do underemployed people solve their problem by finding more hours of work, and even in these cases it may be that the 'solution' is difficult to sustain and tenuous, for example, because it involves patching together several insecure part-time jobs.

⁷ The underemployed could of course use 'spare' hours of labour to improve qualifications and skills through training, and so this is a caveat here.

Unfortunately, measurement of a 'spell' using HILDA data is not straightforward. We cannot take advantage of data from the HILDA calendar, since this does not include a measure of underemployment, so we are confined to observations at the time of each annual interview. Our preferred approach is to examine both the duration and number of spells of underemployment in discrete time, following the method outlined by Cox (2007, pp.249–65). We define incidence both in terms of the number of spells and the length of each underemployment spell in discrete time. There are nine waves (years) of observations when including the first and last year of the panel. Each time an individual moves to a different employment state the transition marks the end of one spell in (say) wave j and the start of a new spell in wave $j+1$. With nine waves of the panel, there can be no more than four spells of underemployment. We define the duration of underemployment as the length of time a person remains underemployed before transitioning to a different employment state. The unit of measurement is a year; for example, if an individual reports being underemployed in Waves 1 and 2 and then moves into full-time employment in Wave 3, this first spell of underemployment has a duration of two years. These measures are constructed from observations of labour market status where adjacent observations are separated by an interval of one year. They will not capture some transitions over short intervals of less than one year, and this will affect our estimate of the number of spells of underemployment. If the incidence of short spells is uniform across the population the measurement error will not seriously affect comparisons across subgroups.

We can also examine persistence via a transition probability matrix from the pooled panel. The matrix examines the transitions *from* underemployment to other employment states between consecutive waves of a pooled panel dataset. It provides an indication of the likelihood of remaining in underemployment or moving to a different labour market state in the following year of observation. In this analysis cases without two consecutive observations in the pooled sample are treated as missing.

4.6 Measuring underemployed households

Examination of the associations between labour market characteristics and housing outcomes raises difficult issues of measurement, because employment is typically an individual activity, with wages received by the individual, not the household. But household members 'share the same roof' and pool sources of income to meet housing costs, the latter being a responsibility of the household. Even though individuals receive wages and households meet housing costs, the typical approach in much of the literature examining the relationship between work and housing has been to select just one member within a household who is considered to be the 'household head' or 'reference person'. Information on the employment conditions of this person is then linked with information on the housing conditions of the household (Henley 1998; Yates & Gabriel 2006). This approach rests on the traditional assumption that there is a key breadwinner in the household who has the main responsibility for providing and paying for housing. Many household surveys in the past have been based on this assumption, thus limiting the type of household measures that can be constructed. But in contemporary couple households it is common for both partners to be employed, and their earnings are pooled to meet the joint responsibility for paying rent or mortgages (and hence housing security). In a couple household, analysis of the relationship between underemployment and housing insecurity should therefore choose a sample design that includes both partners, but excludes the children living with them, as the latter are in general not responsible for housing costs. In group households and multi-family households the traditional assumption of a key breadwinner is even more unrealistic, and different sampling rules from the conventional are again required.

Our review of the literature revealed that the overall employment composition of a household is likely to be an important mediating influence on the extent to which individual underemployment will impact upon housing security outcomes for households. It is important that we integrate underemployment into a household employment measure.

There are various ways that researchers attempt to capture the overall employment position of the household. One important framework is the classification of households as work-rich, work-poor or workless, based on the overall amount of time for which all members in the household are employed (Muffles & Fouarge 2000; Gregg & Wadsworth 2004). This classification can capture the volume of household hours, but it misses the significance of different dimensions of labour insecurity, including underemployment. Our research project aims to go beyond the existing classifications by developing a household typology that incorporates household underemployment.

A particular strength of the HILDA data set is that it allows us to identify the employment characteristics of all responding individuals in a household. HILDA is a household survey, where households are defined as a group of people who usually reside and eat together. Our sample frame will be those people considered to be primarily responsible for ongoing rent or mortgage repayments as either a lease holder or an owner of the property. This definition implies that dependent and non-dependent children are excluded from the analysis at the level of the household. Though this group may be of interest to housing researchers, and their underemployment may have consequences for their housing choices, we leave this group aside as a topic for investigation in later research.

4.7 Measuring housing security

As noted above, the concept of housing security is multidimensional, and this complexity poses challenges for measurement. Hulse and Saugeres (2008) offer a helpful framework that identifies six dimensions of insecurity amongst low-income private and public renters. The six dimensions are summarised below in Table 10.

Table 10: Dimensions of rental insecurity

Dimension	Summary definition
Housing mobility	Involuntary moves and/or frequent moving
Housing instability	Uncertainty about continued occupation or exclusion from access due to landlord practices or external events beyond an individual's control
Lack of privacy	Unwelcome intrusion of others in the environment near or directly accessing the premises
Feeling unsafe	Personal threat to safety from externally related persons or from existing or former kinship relationships
Lack of belonging	Disconnection from wider community and social support networks within local area
Lack of physical comfort	Inadequate housing quality compromising physical and emotional wellbeing

Source: Summarised and adapted from Hulse & Saugeres (2008, p.38)

The dimensions of housing mobility, instability, and lack of physical comfort identified in Hulse and Saugeres' (2008) framework will be especially relevant to our research programme because they are experiences that could be potentially triggered by an episode of underemployment.

A second framework that is helpful to our research project is the FEANTSA⁸ European Typology of Homelessness and Housing Exclusion developed by Meert et al. (2004, pp.6–10). In addition to many of the dimensions identified above, this typology operationalises some of the living arrangements that may be indicative of housing insecurity, including:

- Living in a mobile home/caravan (which is not a holiday accommodation or legal site).
- Living in a dwelling that is declared unfit for habitation under (national) legislation.
- With legal notice to quit/evict related to landlord action or mortgage provider.
- Living in a dwelling without normal legal tenancy.
- Living temporarily with family or friends (not through choice).
- Living in designated supported accommodation.

A related literature on material hardship, deprivation and financial stress uses survey data in ways similar to that proposed in our own research. Of particular relevance are Australian studies using HILDA data. These studies generally draw on HILDA indicators of financial stress (see the list below), though the way these indicators are used varies widely. La Cava and Simon (2005) combine the financial stress indicators into an aggregate measure that is then modelled as a function of variables expected to precipitate financial stress. In contrast, Worthington (2006) models each indicator separately and therefore allows different factors to play a role in triggering financial stress. Breunig and Cobb-Clark (2005) build on Bray's (2001) framework and divide the indicators of financial stress into two groups: one to do with *material hardship* (went without meals, pawned or sold possession, unable to heat home, sought help from welfare community organizations) and the second to do with *problems with cash flow* (could not pay utilities on time, could not pay mortgage or rent on time, and sought financial help from friends or family). However, the factor analysis conducted by Butterworth and Crosier (2005) does not support the clustering of the indicators into two groups.

A recent study by Yates (2007b) examines financial stress, deprivation and housing affordability, using the Household Expenditure Survey (HES) as a data source. The measure of financial stress includes six of the seven items listed above but replaces 'could not pay mortgage or rent on time' with 'could not pay registration/ insurance on time'. Yates also uses a measure of deprivation or 'missing out', where households report being unable to afford one or more of the following:

- A week's holiday away from home at least once a year.
- Night out once a fortnight.
- Special meal once a week.
- New clothes (buy second hand clothes most of the time).
- Leisure or hobby activities.

⁸ Fédération Européenne d'Associations Nationales Travaillant avec les Sans-Abri (European Federation of National Organisations Working with the Homeless).

→ Family/friends for a meal once a month.

Yates (2007b) examines the extent to which those who are defined as housing stressed, based on the standard 30/40 affordability measure,⁹ also experience either low financial stress and deprivation (any one indicator) or high financial stress and deprivation (more than one indicator). As expected, high financial stress and deprivation are strongly associated with housing stress. The study is suggestive, though it does not address the possible links with labour market factors such as unemployment and underemployment, and the indicators differ from those available in HILDA.

In our research project we focus on two broad dimensions of housing insecurity—payment arrears and housing payment risk. Both can be caused by the inadequate earnings commonly associated with underemployment.

4.7.1 *Housing insecurity measure 1: Housing payment arrears*

Households unable to meet payments for housing (rents and mortgage payments) and utilities, such as water, gas and electricity, can find their housing circumstances endangered, as landlords may seek eviction orders, financial institutions may foreclose and utility companies may disconnect the properties of those in arrears. Housing payment arrears are then a good indicator of threats to housing security; in the poverty and wellbeing literature they are often interpreted as signals of acute financial stress and most commonly associated with unemployment or non-participation in the labour force. But the relationship between housing payment arrears and underemployment is a potentially critical gap in the literature, as unpredictable shifts in incomes can arise as a result of unexpected transitions into underemployment. Fortunately, HILDA includes housing payment arrears in its list of financial stress indicators, elicited in responses to the question: '[I]n the past 12 months did any of the following happen to you because of a shortage of money:

- sought financial help from friends or family
- could not pay utilities on time
- could not pay the rent or mortgage on time
- went without meals
- sought help from welfare/community organizations
- pawned or sold a possession
- unable to heat home.'

As noted above, the HILDA financial stress indicators have been combined in many ways. We combine them into three groupings. Though only the first is directly related to housing insecurity, the other two might be aggravated by or be an adjustment to housing insecurity, and because of these interrelationships we include them to facilitate a richer analysis. The first grouping, *housing payment arrears*, is our direct measure of housing insecurity (threats to continued residence in the home) and is based on item 3, 'could not pay the rent or mortgage on time'. It is a binary variable taking the value 1 if a housing payment has been missed, zero otherwise.

The second clustering of the financial stress indicators refers to *other bills/ food insecurity*, and it comprises three items: 'could not pay utilities on time' (2), 'went without meals' (4), and 'unable to heat the home' (7). This measure is separated from

⁹ Households are defined as living in housing stress if their housing costs exceed more than 30 per cent of their household disposable income and they are in the bottom 40 per cent of the income distribution.

the first, because we were interested in identifying whether there are differences in reported housing arrears and other bills/food insecurity across tenure groups. When households face income constraints, they juggle competing bills and housing payments, making trade-offs between what is most urgent for their wellbeing or responding most urgently to the creditors or companies that apply the greatest pressure (Duggan & Sharam 2004). The descriptive analysis shows that households are able to manage this process differently depending on their tenure, which has important implications for housing insecurity and the potential likelihood of losing housing. For instance, private renters, who typically have higher and less flexible rents compared with social renters, face a greater risk of not being able to meet housing costs when income is threatened or persistently low. Many social renters have access to Centrepay, where their rent is directly debited from their bank account before it can be spent on other expenses and rents can be adjusted if income suddenly falls. While rents for social housing can be adjusted to a more affordable threshold, they have less flexibility with other bills. For social renters, falling behind in or reconnecting utilities can lead to the necessity to remove direct debiting for housing thereby increasing the risk of rental arrears over time. Whilst both types of renters will forgo food and other bills in place of rent for the short-term, this is obviously not sustainable over time, and households will be forced to miss payments on housing despite the threat of eviction. Other bills/ food insecurity, whilst an indirect measure of housing insecurity, is an important indicator that housing is unsustainable unless the amount of income can be increased or other adjustments can be made to cover ongoing housing expenses. Clustering the measures for housing and other bills/food insecurity is likely to conceal such patterns across tenures. *Income-supplementing strategies* is a third grouping and includes 'seeking financial help from friends and family' (item 1), 'seeking help from welfare/ community organizations' (item 5), and 'pawning or selling a possession' (item 6). This grouping provides potentially valuable insights into how households make adjustments in response to or in anticipation of housing insecurity. Income-supplementing strategies could be used to avert housing arrears; whether they succeed in pre-empting housing arrears can be explored by exploiting the longitudinal properties of the HILDA data set.

4.7.2 *Housing insecurity measure 2: Housing payment risk*

The payment arrears approach to housing insecurity prescribes relatively narrow boundaries of insecurity. But insecurity arguably extends beyond the confines of those in arrears on housing payments; as we argued earlier, many households will economise on necessities such as food and heating before jeopardising housing circumstances by missing a housing payment. Thus households could be keeping up with rent and mortgage payments by not heating their homes and not eating at all meal times, while others fall into housing payment arrears but continue to heat their homes and eat at all meal times. The former group might be regarded as in equally precarious housing circumstances, but our payment arrears approach will omit them.

The boundaries of housing insecurity are drawn more broadly by a housing payment risk approach that is based on households' capacity to meet housing payments. This measure seeks to identify those households that have little scope to accommodate unexpected expenses or adverse events—two critical factors that have been found to be significant causes of housing loss (Berry et al. 2010, Parkinson 2010). Our method assigns housing insecurity status to those households: 1) with housing costs that are high relative to their incomes; 2) have little if any savings (or other sources of finance to fall back on); and 3) belong to the less prosperous sections of the community. There are then three criteria bundled together in this definition; households that meet all three criteria are 'housing insecure'.

The operational task is to find and use HILDA data suitable for framing each of the three criteria. Housing cost to income ratio measures are scattered through the housing affordability literature (as reviewed in Burke et al. 2011). A standard tactic defines housing as unaffordable if housing payments account for 30 per cent or more of household income. But a (say) \$40 000 household income goes further if there are 'two rather than four mouths to feed'. A typical response to this objection uses an adjusted household income estimate, commonly referred to as equivalised income, which is arrived at by dividing household disposable income¹⁰ by the square root of the number of people in the household (Atkinson et al. 1995).

Our second criterion targets households with little if any savings or other sources of finance to fall back on. The HILDA survey asks respondents to choose one of four categories that might best describe the degree of difficulty (s)he would experience if required to raise \$2000 (\$3000 in Wave 9 to account for inflation) in an emergency.¹¹ As information on household assets (bank deposits etc.) is not available in all waves, and this question is posed in every wave, we elect to use it as a measure of savings or other sources of finance that a person can fall back on. We define those reporting either that they would have to do something drastic to raise \$2000 (\$3000) or that they could not raise \$2000 (\$3000) as having little if any savings or other sources of finance to fall back on.

A household's budget could be severely stretched by high housing costs and have no savings to fall back on (because all wealth is accumulated in the home), but as a high income household we would not regard the housing situation as warranting policy concern. Our third criterion is designed to address this issue. A common approach is to restrict insecure housing status to those households in the lowest 40 per cent of the household income distribution. In our research project we experiment by using a self-reported assessment of prosperity, which HILDA makes available on a six-point scale.¹² This captures levels of both income and savings and therefore seems closer to a measure of housing payment risk. We confine insecure housing status to those making an assessment in one of the three lowest categories on the scale: 'just getting along', 'poor', and 'very poor'. These three categories, in our assessment, indicate that households are stretched and have little room to accommodate unexpected expenses, placing their housing at risk.

This housing payment risk version of insecure housing status is once again a binary measure that takes the value 1, if the person belongs to a household that meets all three criteria, zero otherwise. The measure has the virtue of combining various sources of information that have a bearing on housing security.

4.8 Unit of analysis and measurement

The unit of measurement for investigating relationships between underemployment and housing insecurity is not always obvious. For example, it is straightforward to obtain an *individual's* underemployment status from HILDA survey questions; but many dimensions of housing security are more naturally measured on a household rather than on an individual basis. Furthermore, there are good reasons why we might

¹⁰ Disposable income is preferred to gross income because it is a better measure of capacity to pay. HILDA conveniently offers researchers an imputed disposable income variable (see Summerfield 2010 for definitions of disposable income in HILDA).

¹¹ The four categories are: could easily raise \$2000/3000, could raise \$2000/\$3000 but it would involve some sacrifices, would have to do something drastic to raise \$2000/\$3000 and couldn't raise \$2000/\$3000.

¹² The six categories are: prosperous, very comfortable, reasonably comfortable, just getting along, poor, and very poor.

want to measure underemployment on a household basis rather than an individual basis. In the underemployment context reasons include:

- We might want to ask whether people with a particular personal attribute (say low educational attainment) belong to a household where one or more adults (in say the first income unit) are in underemployment.
- We might want to investigate the link between underemployment status and housing affordability stress.

When we use adult people as the unit of analysis but some or all variable measures can only be measured or are preferably measured on a household or income unit basis, for example housing costs and housing affordability ratios (HAR), we use the attribution approach. In the attribution approach each person is linked with household variable measures. It means that both partners in a couple are 'attributed' the same variable value; if the variable is housing affordability ratios, for example, it is calculated using household measures of income and housing cost and the same value for the housing affordability ratio is assigned to both partners. The housing affordability measures can then be cross-tabulated with a person's underemployment status to judge whether (among a sample of employed persons) the underemployed have higher housing cost burdens.

In panel data people are tracked across successive waves, but their household circumstances change. Divorce and re-marriage is a case in point, and some analysts choose to discard such people from their sample design, leaving people that belong to households whose composition remains unchanged (see Dieleman et al. 1995). But this would seem to ignore an important group. It is often better to continue to include such people in the panel sample. To illustrate consider a household made up of the couple John and Kate who had a 6-year old daughter Carol and were home purchasers in Wave 1. Suppose the research exercise involves comparison of housing affordability and underemployment status across waves of the panel. The daughter is not an adult and is not therefore included in the sample frame. But both John and Kate are included in the sample frame. Their housing affordability position can be calculated by measuring their combined income, and calculating mortgage repayments as a percentage of their combined income (the HAR). Both John and Kate enter the sample and each has the same HAR. If John and Kate were to divorce in (say) Wave 4, the attribution approach retains both of them in the sample, but because they now form separate households they will no longer share the same housing affordability measure. When John or Kate form an income unit with another adult (not present in the Wave 1 sample), that adult is *not added* to the sample, but their income is included for the purposes of calculating housing affordability.

This attribution approach contrasts with the alternative head of household method, which chooses the head of household from each household as the pivot for the sample design. In the latter approach, females tend to be underrepresented within couple households, and if there are gender differences in the incidence of underemployment, the research will suffer from selection bias. It also means that singles will be overrepresented in the adult sample, while adults in couple relationships will be correspondingly underrepresented.

4.9 Statistical analysis: three hurdles

There are at least three methodological hurdles to negotiate in the statistical analysis of relationships between underemployment and housing security:

1. There are confounding variables mediating the relationship between housing security and underemployment. Housing tenure is an obvious example.

Underemployment will affect the outright owner differently as compared to the purchaser or renter.

2. Not all variables affecting the relationship between housing security and underemployment are known to the researcher. Alternatively the researcher could be aware of a relevant variable but no measures are available. Confidence and assertiveness, for instance, might help shape a person's resilience when an unexpected spell of underemployment begins, but these are unobservable traits.
3. We aim to identify the housing security consequences of underemployment, but housing circumstances can in turn influence the chances of underemployment. For example, residential locations distant from job-rich regions of a metropolitan area make it more difficult to combine two or more part-time jobs.

Though our statistical analysis will begin by using descriptive methods of examining the bivariate relationship between underemployment and housing security, each of these methodological issues warrants caution when interpreting findings. They prompt the use of more sophisticated methods. We will uncover the role of confounding variables that might mask or exaggerate the significance of underemployment's effects on housing security by using multiple regression techniques that allow the use of control variables to isolate the independent effect of underemployment. A typical case would be age; the effect of underemployment could differ across the life course. Adding age to a multiple regression allows the researcher to 'control' for stage in the life course. A strength of the HILDA data base is a wealth of information on personal characteristics enabling measurement of control variables.

Some possible mediating variables might be unknown or unobserved. This is particularly problematic when unknown or unobservable variables are correlated with underemployment and also affect housing security. There is then a risk of attributing changing housing security outcomes to spells of underemployment, when in fact they are due to the unobservable or unknown variables. Another advantage of a panel data set such as HILDA is that it makes it possible to control for unknowns/unobservables that are fixed. Consider our earlier example of confidence and assertiveness; we might be willing to believe that these personal traits are unchanging; we are 'born confident/ assertive', and if this is true changes in underemployment status and changes in housing security measures will be unaffected by these traits.

Panel data sets offer opportunities to deal with reverse causation that are not available using cross-sectional data sets. Using the former, it becomes possible to separately identify bouts of underemployment and subsequent housing security consequences; we can argue that future housing security measures cannot 'cause' current underemployment status. Using these lagged relationships facilitates isolation of the effects that underemployment might have on housing security.

4.10 Conclusion

This chapter has outlined the broad research questions and our approach to examining the relationship between underemployment and housing insecurity. Given the absence of large quantitative studies on the housing outcomes of underemployed workers, our proposed research strategy represents a unique contribution to the existing literature on the links between changing labour and housing markets. Our research will make use of the HILDA survey as the main source of data because of its capacity to provide static and dynamic measures of both underemployment and housing insecurity. There are critical methodological issues that need to be considered in undertaking this research, particularly with respect to how the impact of underemployment can be measured and examined at the level of the household. Moreover, using statistical methods, including fixed effects regression, that exploit the

panel nature of HILDA data will allow both observable and unobservable characteristics to be controlled for in modelling the relationship between underemployment, households and housing insecurity.

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APPENDIX 1: UNDEREMPLOYMENT IN THE STATISTICS LITERATURE

The discussion of underemployment in the statistics literature takes place at national level but also at international level, where international standards for official national statistics in both industrialising and industrialised countries are developed through regular meetings of the International Conference of Labour Statisticians (ICLS), convened under the auspices of the International Labour Organization (ILO) (ABS 2007a).

International

Official labour force statistics initially used a concept of 'involuntary part-time employment', understood as comprising workers who were employed part-time but would prefer a full-time job. This concept is still prominent in some countries, for example the European Union countries (see the European Labour Force Survey), but it is rather narrow and does not capture all the cases normally associated with underemployment. Some countries use a measure for 'part-time workers who would prefer to work more hours' (or 'part-time workers who want to work more hours'), derived from standard survey questions on working-time preferences. This is broader and is close to what is of interest when we talk of labour underutilisation. However, a slightly different and more elaborated or refined definition was recommended at the 16th ICLS in 1998 (ILO 1998; see Hussmanns 2007, pp.17–19), where an international standard for the concept and measure of underemployment was adopted. This states:

Time-related underemployment exists when the hours of work of an employed person are insufficient in relation to an alternative employment situation in which the person is willing and available to engage. Persons in time-related underemployment comprise all persons in employment ... who satisfy the following three criteria during the reference period used to define employment: a) 'Willing to work additional hours', i.e. wanted another job (or jobs) in addition to their current job (or jobs) to increase their total hours of work; to replace any of their current jobs with another job (or jobs) with increased hours of work; to increase the hours of work in any of their current jobs; or a combination of the above ... b) 'available to work additional hours' ...c) 'worked less than a threshold relating to working time' ... (ILO 1998, pp.XIII–XIV; Hussmanns 2007, pp.17–20; see also ABS 2007a)

Four points should be noted about this refined definition:

First, the operationalisation of the notion of 'willingness to work additional hours' is not spelled out. One approach would be through an activity test, but this is difficult to fix in the case of people who already have a job and may be wanting more hours in that job. Another option is to use the stated preferences of individual workers. But preferences are liable to shift and can be affected by judgments of what is feasible or appropriate (see Campbell & van Wanrooy 2013). This instability in stated preferences introduces a certain element of uncertainty to measurement, which needs to be considered when interpreting data based on working-time preferences.

Second, the definition introduces a criterion of availability. This is designed to bring it closer to the category of unemployment (which imposes a condition of availability). But the fact that workers are already in a job means that their situation is more complicated compared to someone unemployed. Basically, as the ICLS definition suggests, there are three ways for a worker to resolve a situation of

underemployment: 1) find an additional job that can be used to supplement the current job or jobs; 2) find a replacement job with more hours; and 3) increase the hours of work in the current job. If the worker sees the best path as one of leaving the current job and finding a replacement job with more hours, then it is not normally possible to leave straightaway; instead the worker will only be available to take up an alternative job when they have worked through an appropriate period of notice. This makes assessing 'availability' more complicated than for someone who is unemployed. As the ICLS notes, 'The subsequent period to be specified when determining workers' availability should be chosen in light of national circumstances and comprise the period generally required for workers to leave one job in order to start another' (ILO 1998, pp.XIII-XIV).

Third, the definition refers to a *threshold* for any judgment of insufficient work or underemployment. The ICLS recommendation does not define what that threshold should be, but it cites several possibilities for national bodies to consider, such as 'the boundary between part-time and full-time hours, median values, averages or norms for hours of work as specified in relevant legislation, collective agreements, agreements on working time arrangements or labour practices in countries' (ILO 1998, p.XIV). Thus, though the concept of underemployment may be operationalised through a subjective judgment of the individual worker, who must state that they would prefer to work more hours, the concept also incorporates an objective condition (the threshold) and thereby explicitly excludes some workers who state this preference. The rationale for setting a threshold is not spelt out, but it can be seen as linked to the notion of sufficiency. From the point of view of labour underutilisation, it is necessary to specify a level of optimum utilisation, and it makes sense to identify this with standard or mean full-time hours, since any level above this could be accused of presuming over-use of human resources. A similar argument can be advanced from other points of view. The notion of sufficiency implies a distinction between personal needs and wants. Employed people with hours below the threshold who state a preference for more hours would seem to have a strong *prima facie* claim to be disadvantaged and to have a poor quality job. However, this is less obviously true for those with hours above the standard for a full-time job. Someone who stated that they would prefer more hours despite already working long hours (and receiving a good income) would not normally be seen as disadvantaged but would be more likely to be judged as greedy or driven by strange exogenous imperatives ('workaholism'? a desire to avoid an unpleasant family life?).

Fourth, given a definition that is operationalised through the stated preferences of workers for more hours and given a threshold set at the boundary between part-time and full-time hours, then the new, more refined measure of underemployment is close to the older, simpler measure of 'part-time workers who would prefer to work more hours'. Certainly such part-time workers constitute the core group in the new definition. However, introducing the criterion of availability tends to exclude some part-time workers (those willing to work additional hours but who are not available in the specified period). On the other hand, the definition brings in a new group composed of full-time workers working less than full-time hours in the reference week due to economic reasons.

Australia

Australia is one of the leaders in using a refined concept of underemployment, similar to that recommended by the ICLS, in its official statistics. This section provides a brief introduction to ABS efforts (for more detail see ABS 2007a; see also ABS 2011d, 2011e).

A concept of 'involuntary part-time worker', similar to that still in use in Europe, figured in ABS data from 1964 to 1977. It was subsequently dropped from prominence (Stricker & Sheehan 1981, pp.28–29), though it can still be derived from data published in the annual Survey of Underemployed Workers (SUW), in the form of a count of part-time workers who would prefer to work full-time hours (ABS 2010a).

Since 1978 the ABS has produced good quarterly data on 'part-time workers wanting to work more hours', derived from a simple working-time preference question in the Labour Force Survey (LFS). This was described in the past as a measure of 'underemployed workers' and we refer to it in this way in the substantive sections of the Positioning Paper, where we use it as our preferred definition and measure.

Over the past 20 years, the ABS has moved towards a more elaborated measure of underemployed workers, oriented to the ICLS-recommended definition. Initially the main vehicle for this conceptual development was the SUW, a supplement to the monthly LFS, which started in 1985 but moved to annual implementation in 1994 (ABS 2010a, 2007a). The category was built up by starting with 'part-time workers who indicate that they would prefer to work more hours' and then adding full-time workers working less than 35 hours in the reference week for economic reasons. Subsequently, consonant with the ICLS recommendation, the ABS introduced a criterion of availability in order to determine which 'part-time workers who would prefer more hours' would qualify as underemployed. Since 2001 the same approach has also been implemented in quarterly data from the LFS (February, May, August and November). As a result, we can identify two sources of data based on a refined concept of underemployment—annual data each September from the supplementary topic, Underemployed Workers, and quarterly data from the regular LFS.

To develop the elaborated measure, the ABS had to resolve some of the choices left open in the ICLS recommendation (see ABS 2007a, 5.12-5.20). 'Willingness to work additional hours' is mainly tested through a simple working-time preference question directed at part-time workers (in all jobs). For full-time workers who work less than 35 hours in the reference week due to economic reasons, willingness to work 35 hours is assumed. 'Availability' has proved more of a headache. The situation remains unsettled and somewhat confused because the ABS seems to use two versions of the availability criterion when examining part-time workers who state a preference for more hours—one for the quarterly LFS ('available in the reference week') and the other for the supplementary topic, Underemployed Workers ('available in the subsequent four weeks'). This in turn has an effect on estimates of the number of underemployed workers (see below). Finally, as the above discussion suggests, the threshold for underemployment is set at the boundary between full-time and part-time hours. In official Australian data the boundary is set at 35 hours per week, and part-time workers are defined as 'employed people who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work during the reference week' (ABS 2007a).

Current ABS glossaries (ABS 2010a 2007a) state that:

Underemployed workers are employed people who would prefer, and are available for, more hours of work than they currently have. They comprise:

- Part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey.
- Full-time workers who worked part-time hours in the reference week for economic reasons (e.g. being stood down or insufficient work being available).

It is assumed that these people would prefer to work full-time in the reference week and would have been available to do so.

ABS efforts have produced excellent results that make Australian data on labour underutilisation amongst the best in the world. On the basis of the count of underemployed workers, it is possible to calculate an underemployment rate (the underemployed as a proportion of the labour force), which can be joined with the unemployment rate. This in turn allows calculation of a labour force underutilisation rate (the unemployed and the underemployed as a proportion of the labour force). In addition, the ABS has been able to measure the number of extra hours that underemployed workers are seeking, thereby opening the way for the headcount measures of underemployment and labour underutilisation in general to be supplemented with volume measures.

Unfortunately, several different measures of underemployed workers remain in use. As well as the two versions of the ICLS-recommended measure, we can also cite the simpler measure of 'part-time workers who would prefer more hours'. The choice of measure will affect the size of the estimates of underemployment. Table Appendix 1 shows the difference in September 2010, using data from the SUW (ABS 2010a). As can be seen the highest estimate is that associated with 'part-time workers who would prefer more hours', followed closely by the SUW measure of underemployed workers (availability defined in terms of next four weeks) and then a 10 per cent drop to the LFS measure of underemployed workers (availability defined in terms of the reference week). However, the impact of the choice of measure varies by sex, with the measure of 'part-time workers who would prefer more hours' producing the highest estimate for female 'underemployment' but the lowest estimate for male underemployment.

Table A1: Different ABS measures of underemployed workers, by sex, September 2010

	Males	Females	Persons
Part-time workers who would prefer more hours	315.3	501.8	817.1
Underemployed workers* next 4 week criterion for availability	344.8	462.5	807.3
Underemployed workers* reference week criterion for availability	316.7	405.0	721.7

Source: ABS, 2010a

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Australian Housing and Urban Research Institute

Level 1, 114 Flinders Street, Melbourne Victoria 3000

Phone +61 3 9660 2300 Fax +61 3 9663 5488

Email information@ahuri.edu.au Web www.ahuri.edu.au

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