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Exploring the use of residual measures of housing affordability in Australia: methodologies and concepts

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ACRONYMS

ABS	Australian Bureau of Statistics
ACER	Australian Council for Educational Research
AHURI	Australian Housing and Urban Research Institute
FaHCSIA	Australian Government Department of Families, Housing, Community Services and Indigenous Affairs
GP	General practitioner
HC	Housing costs
HDI	Household disposable income
HES	Household Expenditure Survey
HGS	Household goods and services
HILDA	Household income and labour dynamics in Australia
LDS	Longitudinal data set
LSAY	Longitudinal Survey of Australian Youth
RHI	Residual household (disposable) income
SIH	Survey of Income and Housing
SPRC	Social Policy Research Centre

EXECUTIVE SUMMARY

The concept of housing affordability has a central role in Australian housing research. The dominant approach to defining and measuring housing affordability has been the ratio approach. This Essay explores the potential advantages of greater use of residual measures of housing affordability as a supplement to the ratio approach for Australian housing policy and research.

During recent decades there have been significant developments in concepts, methodologies and data sets in poverty and living standards research both in Australia and internationally. These developments have bequeathed a particularly fruitful research resource, namely Australian budget standards, which open up new opportunities for residual income measures of housing affordability.

The ratio measure of housing affordability, whereby housing affordability or stress is indicated if a household spends more than a specified percentage of their income on housing costs, has been criticised as being somewhat arbitrary and insensitive to the varied circumstances of different household types. The alternative residual income measure of housing affordability operates by assessing against a benchmark the amount of income a household has left after paying for housing costs. An equivalent measure in poverty research is the after-housing poverty line. Relative to the ratio approach, the residual income approach is more capable of assessing housing living standards, is more sensitive to household structure and is more sensitive to diverse income levels. However, it is more complex to use.

The development of Australian budget standards by the Social Policy Research Centre at the University of New South Wales in 1998, and their subsequent evolution and extension, has provided new resources for operationalising the residual income approach in Australia. The budget standards methodology involves the identification of a basket of goods and services required by a specific household type in a given location to achieve a specified standard of living. The 'basket' is then costed at local market prices to attain a benchmark disposable income required by that household type to achieve the specified standard of living.

The Australian budget standards were originally developed for two living standards—the low cost living standard, and a modest but adequate living standard—but other standards have since been developed. The budgets have been costed for a wide range of household types, and have taken into account such factors as sex, age and labour force status. At least three studies addressing issues of housing affordability in Australia have already utilised this work.

At the heart of the residual income approach are two key steps:

1. Calculating residual household disposable income by subtracting actual housing costs from total disposable household income (HDI).
2. Comparing residual household disposable income with the relevant disposable household income benchmark derived from budget standards without housing costs. If it is higher than the benchmark, then the household has achieved the budget standard living standard (e.g. low cost). If it is lower than the benchmark, then the household is unable to attain that living standard, and might be defined as being in housing stress, and their housing unaffordable.

In order to undertake these calculations for a residual income measure of housing affordability, the minimum key data items are: household structure, household disposable income, housing expenditure data and household budget standard

benchmarks (not including housing costs). There is now a large and growing range of data sets which provide such data.

An increased focus on residual income measures of housing affordability would parallel recent developments in poverty and living standards research, which have evolved from a focus on inputs to a widened focus on outputs. These living standards research developments have applicability to housing research. The ratio approach to housing affordability measurement is essentially an input-oriented approach, while the residual income approach begins to direct attention to the impact of housing costs on household outcomes, including wellbeing and living standards, as portrayed in Figure 1. The paper demonstrates the ways in which this area of housing research might devise and utilise more output-based approaches. A conceptualisation of the relationships among housing, income and living standards is outlined as a basis for building such a research agenda. It is hoped that such work can now flourish.

1 INTRODUCTION

The purpose of this Essay is to explore the advantages of greater use of residual measures of housing affordability as a supplement to the ratio approach for Australian housing policy and research, and the possibilities for more outcome measures of housing consumption. This is an important topic. The issue of housing affordability dominates the public debate on housing policy in Australia. The ratio approach is the most widely used approach in measuring housing affordability. Whereas the ratio approach focuses on the proportion of household income spent on housing costs, the residual approach focuses on income remaining after housing costs and whether or not this income is sufficient to enable a household to maintain a benchmarked adequate standard of living. These are conceptually and methodologically distinct approaches to housing affordability and this Essay considers the case for more extensive use of the residual approach in Australian housing research and policy.

The Essay begins by examining the meanings and definitions that have been given to the concept of housing affordability. In this context the ratio and residual approaches to measurement of housing affordability are described, compared and contrasted in Section 3.

The potential use of the residual approach in the Australian context is then explored. The residual approach to measuring housing affordability is dependent on an income or expenditure benchmark for the adequacy of household income after housing costs. The budget standards methodology is the typical means for deriving such benchmarks. Budget standards research has been developed in Australia over the past two decades by poverty researchers as a response to the perceived arbitrariness of ratio approaches to poverty measurement. The broad contours of Australian research on budget standards are reviewed in Section 4, and the conceptual and methodological issues involved in deriving and using budget standards are outlined. The ways in which this work can be used to develop residual measures of housing affordability in the Australian context are clearly explained in Section 5. In this context, the availability of existing data sources that enable residual measures of housing affordability to be developed is discussed, and the possibility of developing new forms of housing and household data is explored.

In Section 6, the Essay identifies the benefits of further development of the residual and other approaches in Australia. Poverty research has evolved by developing a focus on the actual living standards of households with low incomes through a range of methodologies, including budget standards. In a similar way, the residual approach to measuring housing affordability opens up a broader research framework that links housing costs, housing adequacy, household living standards and the wellbeing of household members. In this way, more extensive use of the residual approach and complementary outcomes-based methods can broaden the scope of the Australian housing policy debate.

2 HOUSING AFFORDABILITY: MEANINGS AND DEFINITIONS

Housing affordability is the most widely discussed housing issue in Australia, with numerous politicians, academics, journalists and representatives of interest groups contributing to the debate. Housing affordability has become a highly symbolic issue in the Australian imagination and as such there is wide public support for the idea that the price of housing should be within the reach of low- and middle-income households. The idea of housing affordability is used by a range of groups for different purposes, including mortgage lenders evaluating the capacity of potential mortgagees to repay their loan, social housing providers setting rents and policy analysts assessing the capacity of households to purchase or rent a dwelling. There is an ongoing debate in Australia concerning the extent and distribution of the housing affordability problem, and the factors impinging on affordability and policy responses. A key issue underpinning this debate is the meaning and definition of housing affordability.

It is important at the outset to distinguish between the concept of housing affordability and the means by which that concept is assessed or measured. At the most general level, housing affordability is concerned with the relationship of housing costs and household income. For example, Yates has shown how affordability problems have emerged in Australia as a result of housing costs for both purchasers and renters increasing faster than household incomes (2008). Housing affordability becomes a problem for society or for individual households when housing costs are seen to be 'too high' relative to household incomes.

Attempts to define this situation in terms unrelated to specific measurement processes tend to be couched in broad and sometimes vague language. In their widely quoted definition, MacLennan and Williams (1990) suggest that affordability implies a price for housing that does not impose 'an unreasonable burden' on household incomes. In a similar vein, Hancock suggests that 'opportunity cost' is the essence of the idea of housing affordability: 'What has to be foregone in order to obtain housing and whether that which is foregone is reasonable or excessive in some sense' (1993).

Ideas such as 'an unreasonable burden' on household income and 'excessive' opportunity costs provide ways of thinking about housing affordability that do not imply any particular measurement approach. However, generalised definitions of this kind raise two fundamental conceptual issues.

First, who should define what constitutes an 'unreasonable burden' or 'excessive' costs? There are several possible answers. Governments acting on behalf of society might establish a benchmark above which housing is deemed unaffordable as a basis for policy responses. Experts such as housing researchers might formulate measures reflecting their own values, their analysis of 'housing needs' and/or their understanding of values that are widely held in the society or in other comparable societies. Alternatively, the views of individual households could be examined to determine what constitutes an 'unreasonable burden'. Stone argues that:

Most fundamentally, the [housing affordability] problem is an expression of the subjective, social and material experiences of people, constituted as households, in relation to their individual housing situations. Affordability expresses the challenge each household faces in balancing the costs of its actual or potential housing, on the one hand, and its non-housing expenditures, on the other, within the constraints of its income. (2006)

From this perspective, the meaning of housing affordability is highly variable, reflecting the diverse values and circumstances of households. Affordability, it may be concluded, is a concept that is inherently value-laden, involving, at both the public policy and the household levels, elements of perception and subjectivity.

The second conceptual issue raised by generalised definitions of housing affordability is that of housing quality or housing standards. Is housing 'affordable' if paying a price that does not constitute an 'unreasonable burden' results in the purchase of housing that does not meet a 'reasonable standard'? As Stone states, 'housing deprivation can take a variety of forms, of which lack of affordability is only one' (2006). The issue of housing standards tends to be somewhat neglected in Australian housing policy and research, as it is widely assumed that most housing (with some notable exceptions, such as housing in some Indigenous communities) is of an adequate standard. However, many writers have noted the close relationship between affordability and adequacy, building the idea of 'securing some given standard of housing' into their definition of housing affordability (e.g. MacLennan & Williams 1990). Hancock suggests that affordable housing is housing that 'leaves the consumer with a socially acceptable standard of both housing and non-housing consumption' (1993) after housing costs are met.

Like affordability, housing adequacy or quality can be viewed in terms of standards set down by public authorities and experts. Some aspects of housing adequacy are based on societal standards or benchmarks, such as whether or not the dwelling is safe and 'habitable', whether or not it provides a reasonable standard of shelter and whether or not it is connected to utilities such as water, sewerage and electricity. These aspects of housing adequacy are defined within a social setting, and are derived from social norms concerning 'the adequacy of houses to satisfy basic household requirements' (Bourassa 1996).

However, housing adequacy can also be understood in terms of household-specific circumstances or perceptions of their particular housing needs and preferences. For example, are there sufficient bedrooms to cater for the household members (perhaps according to an agreed benchmark)? If a member of the household has mobility impairment, is the house provided with ramps, hand rails or other design features that reflect the needs of householders? Perceived housing adequacy can also be conceptualised as including location-based amenities such as access to schools, employment, shops, medical facilities, parks, recreational facilities and public transport. In this regard, housing adequacy is also defined by the specific needs of a household as well as by reference to community standards or benchmarks.

It should be noted that the term 'housing stress' is widely used in Australia and elsewhere to refer to the circumstances of households whose housing is deemed to be unaffordable (e.g. Lamont 2008; Marks & Sedgwick 2008). The terms 'housing stress' and 'unaffordable housing' are generally used synonymously in Australia. The term 'housing stress' evokes the subjective experience of housing that is unsatisfactory in terms of cost and/or suitability. However, the narrower meaning of the term 'housing stress' as 'unaffordable housing' has wide currency and is used in this way in the remainder of this Essay.

It is important that analysis of approaches to measurement of housing affordability—the main focus of this Essay—take account of the wider conceptual issues briefly reviewed above. The problem of housing affordability is contested political territory and measurement of housing costs and household income and interpretation of their relationship is not simply a technical, methodological issue. The representation of housing affordability in public policy necessarily transcends households' experiences of affordability, but households' perceptions of the impact of housing costs on their

quality of life and wellbeing must be given important consideration, a point to which we return toward the end of this Essay. Furthermore, housing affordability and housing adequacy should not be decoupled. The issues raised through this analysis of meanings and definitions of housing affordability informs the remainder of this Essay.

3 APPROACHES TO MEASURING AFFORDABILITY

Our discussion so far has emphasised the importance of distinguishing the concept of housing affordability and the means by which that concept is measured. However, many writers on housing affordability assume, implicitly or explicitly, that the broad meaning of the term is self-evident and that housing affordability can be defined in terms directly linked to measurement. For example, Chapman states that:

Housing affordability measures the financial outcome for a household of renting or purchasing the dwelling they need or wish to occupy. That financial outcome can be expressed as the percentage of household income required to occupy a dwelling, or the amount of household income left after paying for housing costs. (2006)

This quote points to the two most widely used approaches to measuring housing affordability in academic housing research: the ratio approach and the residual approach. A review of these two methodologies, their relative strengths and weaknesses, is the focus of this section. Before proceeding, it is important to acknowledge more macro measurements of housing affordability used in Australian industry and policy domains, including the Real Estate Institute of Australia and AMP Home Loan Affordability Index, the Commonwealth Bank of Australia and Housing Industry of Australia Housing Affordability Index, and the Bis-Shrapnel Home Loan Affordability Index. As each of these indices assess macro-level conditions and do not relate to specific households, we consider these no further.

Moreover, there are several technical methodological issues regarding the measurement of housing affordability which are shared by both ratio and residual approaches. These issues primarily relate to what constitutes housing costs and the measurement of household income. There are also shared concerns about the quality of survey data. As such technical questions are shared and well known and discussed (see e.g. Abelson 2009; Gabriel et al. 2005), we do not consider these further in this Essay. Instead we focus on the technical methodological questions specifically pertaining to the residual approach.

3.1 The ratio approach

In Australia, the most prevalent definitions of housing affordability are ratio definitions which are based on the idea that housing affordability problems arise when housing costs 'absorb too great a proportion of household income' (Yates & Milligan 2007):

A household is said to have a housing affordability problem ... when it pays more than a certain percentage of its income to obtain adequate and appropriate housing. (Hulchanski 1995)

The benchmark for housing costs is typically 30 per cent of household income (although 25% is also used). The 30 per cent benchmark is officially used in the current COAG Reform Council National Affordable Housing Agreement (COAG 2011). A dwelling is thus deemed affordable for a specific household if housing costs as a percentage of household income are below the benchmark, otherwise it is unaffordable and the household is in housing stress. Where the policy focus is on low- and middle-income households, the benchmark is often refined to focus only on those households in the bottom 40 per cent of the (equivalised) income spectrum. Following the same rationale, rents for social housing can be set at a ratio of total household income, such as 25 per cent. Mortgage lenders may use a broad ratio approach when assessing the capacity of an applicant to repay the mortgage for a specific household.

The ratio measures of affordability relate housing costs to specific household incomes. An alternative ratio measure is used to assess the generalised affordability of housing within a geographical region—that is, median house purchase prices as a ratio of median (household or individual) income—such as the REIA and AMP Home Loan Affordability Index. Ratio measures can be applied at a point in time and can be used to assess trends in housing affordability and stress.

There are a range of technical methodological questions associated with applying the ratio approach, such as the form of income to use (gross or net, equivalised or not), how to apply in dwellings with multiple household units, the choice of ratio to use and the issue of what to include as housing costs (e.g. mortgage repayments or interest only, household insurance, rates, repairs, etc.). Gabriel et al. (2005) provide a detailed examination of these issues. As with all research methodologies, there are both advantages and limitations of the ratio approach (see Table 1), which are also reviewed by Gabriel et al. (2005). A primary strength of the ratio measure is that it is relatively easy to apply. In its most simple form, data is only required on household income and housing costs. Comparisons in housing affordability can be readily made between geographical areas, household types and over time. The ratio measure can also take into account geographic variations in housing costs and incomes, and can show how housing affordability is an outcome of such localised factors.

The relative ease of application of the ratio approach is accompanied by a number of shortcomings. Ratio approaches are most commonly criticised for failing to take into account the diversity of households and household consumption patterns (Hulchanski 1995). The affordability benchmark (e.g. 30%) is to some extent arbitrary and says little as such, about a household's living standards. Ratio approaches do not usually address the issue of the quality of housing purchased by a household for a given proportion of their income. A simple ratio approach does not readily distinguish between households which may have identical housing cost ratios but very different characteristics, incomes and living standards. Nor does it take account of how affordability is perceived or experienced by households.

Adjustments can, of course, be made to address some of these limitations. For example, National Research Venture 3, AHURI's detailed study of housing affordability in Australia in the early 21st century, used the '30/40 rule' to identify households paying too much of their income on housing, that is, those households paying 30 per cent or more of their income that are in the bottom 40 per cent of the income distribution adjusted for household size (Yates & Milligan 2007). This form of the ratio approach, it was argued, 'provides a robust rule of thumb as a benchmark indicator of households likely to be at risk of problems associated with a lack of affordable housing' (p.9).

3.2 The residual approach

Definitions of housing affordability in terms of residual income are far less commonly used than ratio definitions in Australia. In essence, residual income approaches define housing affordability 'in terms of the adequacy for other household needs of income remaining after deducting housing costs' (Bourassa 1996). Such definitions can take into account housing quality: 'Housing is defined as affordable if households can both pay for adequate accommodation and afford the other necessities of life' (Marshall et al. 2000). A residual income definition was used by the National Housing Strategy in 1991, which defined housing affordability as:

The notion of reasonable housing costs in relation to income: that is, housing costs that leave households with sufficient income to meet other basic needs such as food, clothing, transport, medical care and education. (Australia 1991)

This residual income approach to housing affordability is sometimes referred to as housing (or shelter) poverty. For example, Stone defines shelter poverty as:

A household paying more than it can afford ... the squeeze between its income and housing cost leaving it with insufficient resources to meet its non-shelter needs at a minimum level of adequacy. (1993)

An important variation on the definitions cited above is a residual income approach that defines affordability in terms of 'the capacity of households to meet housing costs while maintaining the ability to meet other basic costs of living' (Burke 2004). In short, this approach assesses income adequacy for housing costs after payment of essentials, rather than the other way around. Drawing on Stone (2006), Yang and Shen (2008) used such a definition to underpin their study of owner-occupied housing in Beijing:

A household can be considered having a housing affordability problem if disposable income after subtracting non-housing costs is too small to pay for adequate housing. Therefore, the appropriate indicator of housing affordability should be the difference between housing cost and the residual income remaining after paying for required non-housing goods.

Typically, the residual income approach uses a minimum income or 'poverty' benchmark, although it is possible to use benchmarks reflective of a higher living standard level. The logic of this approach is that it is more meaningful to examine whether a household has sufficient income to get by after paying housing costs than it is to examine an arbitrary percentage of household income spent on housing. The residual approach argues that if the remaining household income after housing costs is below the relevant living standard benchmark, then the housing is unaffordable and the household should be regarded as being in housing stress or shelter poverty. In the poverty literature, this same approach is referred to as 'after housing' poverty. This measure has attracted greater interest from poverty researchers than housing researchers. Stone (2006) provides a detailed and sympathetic consideration of the conceptual and methodological aspects of the residual income approach.

When using this approach, a specific poverty or living standards benchmark must be identified and utilised. For example, in Stone's seminal work, *Shelter Poverty* (1993), the US Bureau of Labor Statistics Lower Budget Estimates was used. In the Australian poverty literature, following the 1970s Henderson inquiry into poverty, the Henderson Poverty Line was established for both before and after payment of housing costs (Melbourne Institute 2010). Residual income measures of housing affordability are also in use by mortgage lenders. While the details of these specific assessments are varied and not publicly known due to commercial confidentiality, it is understood that their models often take into account current household expenditure. Residual income measures of housing relate specific housing costs to specific households and their incomes, rather than analysing data at the aggregate level, although the results can be aggregated.

In some ways, the relative strengths and weaknesses of the residual approach are the reverse of those for the ratio approach to housing affordability (see Table 1). A key strength of the residual approach is that the measure provides a better assessment of the achieved living standard of a household. Moreover, as the method assesses the residual income after housing costs, this method better takes account of the effect of housing on high-income households, which are not regarded as in stress unless their residual income is below the benchmark even if housing costs are proportionally very high. Given that this approach compares after-housing income with a benchmark relevant for that household type (e.g. single adult, couple with three children), residual

approaches are necessarily sensitive to the relative needs of differing households. As with the ratio approach, the residual approach is also sensitive to housing and labour market variations.

On the other hand, the key and major drawback of the residual approach is that it is more complex to utilise. Instead of a uniform percentage, a separate benchmark is required for each household. Typically, this is achieved by relating a specific household to a household type to which a budget standard has been derived. However, applying the household types to actual households requires a level of generalisation and judgement and is quite complex, and certain households may not be assessed at all. Another drawback is that the income benchmark may not be as sensitive to geographical variations in costs of living, although this is arguably a weakness implicit in the ratio approach to housing affordability as well as in standard poverty research. Both ratio and residual income approaches are fiscally focused, and as such are not able to ascertain the more qualitative aspects of housing, as denoted in the concepts of housing adequacy and housing quality, a topic explored in the final section of this report.

At its heart, the residual approach to housing affordability relies on a benchmark or measure to assess the adequacy of income after housing costs have been expended by a household. As such, income benchmarks typically relate to minimum adequacy standards; this leads the discussion to concerns with poverty and living standards, and in particular to budget standards research.

Table 1: Relative strengths and weaknesses of ratio and residual housing affordability measures

Ratio measure	Residual measure
<p>Strengths:</p> <ul style="list-style-type: none"> → relatively easy to apply → easy comparisons → reflects market realities in housing and income 	<p>Strengths:</p> <ul style="list-style-type: none"> → assesses household living standards → sensitive to household structure → sensitive to diverse income levels → reflects market realities in housing and income
<p>Weaknesses:</p> <ul style="list-style-type: none"> → arbitrary benchmark → needs modification to address household structure → needs modification to address issue of households with different income levels → does not address housing quality and adequacy 	<p>Weaknesses:</p> <ul style="list-style-type: none"> → more complex to apply → not sensitive to geographic variations in cost of living → does not address housing quality and adequacy

4 BUDGET STANDARDS RESEARCH IN AUSTRALIA

The feasibility of residual approaches to measurement of housing affordability in any given location depends on the availability of established benchmarks for assessing income adequacy. Poverty research is the domain in which such benchmarking exercises typically occur. In measuring poverty, debates and methodological issues arise that parallel those within housing affordability research. At the heart of these debates are questions about 'ratio' approaches to poverty, which are often charged with being too arbitrary, and attempts to build more outcome-oriented measures.

During the past two decades, an important focus of poverty research in Australia and internationally has been to develop budget standards methodologies to provide benchmarks for the adequacy of household income. In the Australian context, measures of household deprivation and living standards have been developed by poverty researchers as alternatives to conventional ratio approaches to poverty measurement. Understanding the broad contours of Australian research on poverty and the factors underpinning the shift from ratio measures to measures based on budget standards and beyond is relevant to the issues involved in measurement of housing affordability. Ratio approaches to the measurement of poverty and housing affordability are both vulnerable to the criticism of arbitrariness, and the arguments in favour of budget standards in poverty research and residual approaches to housing affordability share a focus on the identification of actual living standards.

4.1 The ratio approach to poverty measurement

Historically, most poverty research, including poverty research in Australia, has used a monetary benchmark to determine the incidence of poverty in a society. Households below the selected monetary benchmark are deemed to be living in poverty and those above are not. Internationally, the dominant approach has been to measure poverty in terms of a household's income relative to a benchmark, such as 50 per cent or 60 per cent of average or median weekly earnings (see Atkinson 1987 and Ringen 1988 for classical papers on this issue). There have also been country-specific measures (Veit-Wilson 1998) such as Australia's Henderson Poverty Line developed in the 1960s and early 1970s (Melbourne Institute 2010) and the United States' Orshansky Poverty Thresholds (Fisher 1992). Advantages of these 'ratio' measures of poverty parallel those of ratio measures of housing affordability, including that they are relatively easy to apply and that they allow ready comparisons between regions and nations.

Some of the debate concerning these ratio-based benchmarks has focused on technical issues concerning their application to households (Whiteford 1997; Saunders 2005, pp.49–53). Should the benchmark use gross or disposable household income? What equivalence scales are appropriate to make comparisons between household types? What is the appropriate benchmark percentage? In order to address concerns about the somewhat blunt nature of a single benchmark, poverty researchers have derived a range of other statistics using such benchmarks to provide a more nuanced understanding. For example, the 'poverty gap' measures the level below the poverty line. Sensitivity analyses can also be made by examining the distribution of households just above or below the standard benchmark, varying the benchmarked ratio and developing different benchmark categories such as 'poverty', 'deep poverty' and 'at risk of poverty'. A further refinement has been to use longitudinal statistics to convey the dynamic nature of poverty (Fouarge & Layte 2005).

Irrespective of these various forms of fine-tuning, poverty benchmarks based on income ratios are vulnerable to the criticism that they are essentially arbitrary, or that

they measure 'relative' poverty, and perhaps fail to capture a socially defined minimal standard. One facet of this criticism is that they are measures derived by experts without reference to public opinion and that they are not linked to people's lived experience. In response to this criticism, poverty researchers have developed 'consensual poverty lines', derived by asking those in poverty and other social groups to indicate what they view as the minimum income required to live in a particular society (Saunders & Matheson 1992). A related criticism is that the ratio approach measures inputs rather than outcomes. In other words, ratio measures of poverty do not reflect what households are able to achieve (or not achieve) in terms of living standards with such an income level. Ratio measures also do not take account of the differential access of low income households to public sector goods and services provided in kind and to income derived from the informal economy (Saunders 1998).

4.2 Budget standards and related measures

Criticism of the somewhat arbitrary nature of ratio measures of poverty has led to alternative approaches to poverty research based on a definition of poverty as 'an enforced lack of socially perceived necessities' (Mack & Lansley 1985). These approaches have focused on the development of new concepts and measures, including budget standards, deprivation standards, living standards and social exclusion.

The *budget standards* methodology involves the identification of a basket of goods and services required by a specific household type in a given location to achieve a specified standard of living. The 'basket' is then costed at local market prices to attain a benchmark disposable income required by that household type to achieve the standard of living specified. Budget standards do not measure what households actually achieve, but they explicitly define what is possible with a given income level and, in this sense, they represent a shift toward measurement of outcomes.

Current research interest in budget standards reflects a longer tradition that includes the 1908 Harvester Decision establishing Australia's basic wage. Recent Australian research largely stems from the development of Australian budget standards at the Social Policy Research Centre (SPRC). The definitive research is in Saunders et al. (1998). Since then, budget standards have been used for a range of policy purposes, such as estimating the costs of raising children (Henman 2008), of maintaining contact with non-resident parents (Henman & Mitchell 2001) and of foster care (McHugh 2002). Budget standards have also informed Australian policy debates concerning the minimum wage (Saunders 2004), retirement incomes (Saunders et al. 2004) and child support (Henman & Mitchell 2001).

One of the key strengths and rationales for the budget standards methodology is its capacity to reflect community-perceived minimal requirements in domains such as housing, food, clothing, health and leisure, and to relate these requirements explicitly to necessary expenditure (or disposable income) levels.¹ This focus on actual baskets of goods and services required by households also means that the approach is comparatively open and transparent and available for discussion and modification. At the same time this approach generates considerable complexity and the initial research to develop standards is extremely resource-intensive.

Australia's indicative budget standards, as devised by SPRC, have several strengths. They have been meticulously developed, drawing on both behavioural data and normative standards, and initially comprise two living standard levels—a 'low cost' and

¹ See Saunders et al. (1998, p.17) for a detailed discussion of the strengths and limitation of budget standards.

a 'modest budget adequate' standard—for a wide range of household types. Each household budget standard is based on consideration of over 800 goods and services, which were costed at market prices in early 1997. This documented level of detail enables researchers to alter the basket of goods and services should they disagree with the living standard they constitute. Indeed, this is essential to derive budget standards without housing costs. One major variation of the original low cost budget standard is the construction of a 'short-term' low cost budget standard by removing the costs of durable items from the budgets as calculated by their straight line depreciation costs (e.g. Henman 1998a; Waite et al. 2010).

This level of detail and complexity can create confusion and inappropriate use by those not cognisant of the budget standards methodological details (Henman 1998b). One key downside of the original budget standards is that they were developed for Sydney only. However, budget standards for all Australian capital cities and some regional areas have been devised based on the original standards (Henman 1998a, 2001; Waite & Henman 2006; Waite et al. 2010).

A second difficulty with budget standards is that they relate to specific household types (e.g. ages of children and labour force status of adults) and to living standard levels. However, demonstrating the flexibility of budget standards, SPRC's original household types and living standard levels have been expanded to include foster care families (McHugh 2002), non-resident parents with regular contact with their non-resident children (Henman & Mitchell 2001), a higher 'comfortably affluent but sustainable' living standard for retirees (Saunders et al. 2004) and a 'luxury' living standard (Henman 2007). The application of these household types to actual data sets has also been undertaken by a range of researchers making informed assumptions and adjustments for those households that lie outside and between the devised types.

A third limitation of budget standards is that they relate to community standards at a specific time. Devised over a decade ago, they did not take account of changing community expectations and the internet and mobile phones, which are now commonplace. While researchers have variously updated the budget standards using movements in prices, wider societal changes have yet to be incorporated. A weakness of the budget standards is that they require regular reconsideration to remain relevant. While budget standards can be readily updated to reflect changes in prices, changes in societal expectations and perceptions of minimal standards as a result of increasing living standards is much more difficult. The original budget standards derived by Saunders et al. (1998) to reflect living standards in early 1997, have not been increased beyond price changes.

On the other hand, the flexibility of budgets standards generates considerable benefits. They can be derived for different living standards, such as minimum, median and luxury. By costing the same basket of goods and services in different locations, the budget standards approach is able to reflect geographical variations in living costs, subject to data on such cost variations. Indeed, the baskets can be varied to take account of geographical variations in household requirements, such as high heating and warm clothing needs in cold climates (e.g. Tasmania), and air-conditioning and cool clothing in hot climates (e.g. Darwin). However, the reverse side of this flexibility is complexity, and the necessity of judgements about the extent to which researchers should take account of all potential variations.

Appreciating these strengths and weaknesses of the research methodology in general is an important consideration for users of budget standards. A similar appreciation of strengths and weaknesses is required by users of the Australian budget standards developed by Saunders et al. (1998).

4.3 The details of Australian budget standards research

As already noted, Australian budget standards research is based on the seminal work undertaken by the Social Policy Research Centre (SPRC) at the University of New South Wales (Saunders et al. 1998). All subsequent budget standards work in Australia is heavily reliant on that comprehensive study. Hence, it is essential to understand the essential ingredients of that original work.²

At the heart of the SPRC's budget standards are the derivation of standards for two different living standards levels, as follows:

1. A *modest but adequate* standard, which represents middle Australia. It 'affords full opportunity to participate in contemporary Australian society and the basic options it offers. It is seen as lying between the standards of survival and decency and those of luxury ... It attempts to describe the situation of a household whose living standards falls somewhere around the median standard of living experienced within the Australian community as a whole' (Saunders et al. 1998, p.63).
2. A *low cost* standard representing low-income households. Although this level allows for social and economic participation consistent with Australian community standards, it is a frugal level 'below which it becomes increasingly difficult to maintain an acceptable living standard because of the increased risk of deprivation and disadvantage' (Saunders et al. 1998, p.63).

Since the original research, variations on these different living standard levels have been developed, including a short-term low cost standard and a luxury standard.

Overall, the SPRC research involved the identification and costing of over 700 items of household goods and services required by each household type. Over 50 household types were constructed by varying household composition (the number and sex of adults and the number, age and sex of children), the employment status of adults and housing tenure. In order to operationalise the budget standards, specific individuals were used as a substitute to the generality: adult females aged 35 and 65; adult males aged 40 and 70; girls aged 3 and 6; boys aged 10 and 14. Households were created using a combination of these individuals.

In order to capture the great depth and breadth of household needs, the SPRC generated budget standards for 9 separate components: housing; energy; food; clothing; household goods and services; health; transport; leisure; and personal care. Items were included in the low cost budget standard if 75 per cent of the relevant population owned or used this product or service. The benchmark for the modest but adequate budget standard was 50 per cent of the relevant population. The cost of household durables, such as furniture and white goods, were amortised over an assumed lifetime. Differentiation between the two living standards was also obtained by varying quality or quantity of items or the assumed lifetime of durables. The original work by the SPRC derived the baskets of goods and services and costed them for households living in Sydney in the March quarter, 1997.

The following summarises the contents and assumptions of the 9 component budgets.

1. Housing

Housing costs include rents, mortgages, maintenance and repairs, household insurance and rates. The SPRC adopted the Canadian housing standard for determining dwelling size. This required that there be no more than two persons to

² The technical details of that work are outlined in the 700+ page report (Saunders et al. 1998). Saunders (1998b) and Henman (1998a) provide useful summaries of the project's approach, method and assumptions, while Whiteford and Henman (1998) critically engage with the methodological treatment of household durables.

a bedroom. Children under five years old may share a bedroom. Children of the same sex may share a bedroom until the age of adulthood. Estimating the cost of housing is fraught with difficulty. This is due to the great variability of housing and because most of a mortgage is property investment and therefore a form of wealth. Median private rents were used for modest but adequate living standards, but first quartile rents for the low cost standard.

2. **Energy**

This budget includes the electrical and gas costs associated with the household. The calculations are based on a model of energy use based on household composition and dwelling size.

3. **Food**

The cost of food is based on individual menus for each person based on a healthy diet. Only a modest but adequate living standard includes take-away meals, and there are no restaurant meals. Some alcohol is included, but no tobacco. Additional take-away food is provided for workers.

4. **Clothing**

The clothing and footwear estimate is based on the cost of a basic wardrobe of clothes for each individual, and includes an outfit for special occasions, and appropriate work-related clothes for those in the labour force.

5. **Household goods and services (HGS)**

This budget includes over 400 items covering furniture and white goods, cutlery and crockery, linen, cleaning goods and stationery. The costs are spread across an assumed lifetime. This budget also includes costs for public school education (not private) and childcare.

6. **Health**

Health care costs are for individuals who are generally healthy. They include annual dental trips, prescriptions and over-the-counter medications. Visits to the doctor are assumed to be bulk-billed (i.e., free), and costs for specialists, orthodontists and opticians are not included. Health costs are net of government benefits provided through Medicare and the Pharmaceutical Benefits Scheme.

7. **Transport**

This budget includes the depreciation costs of buying a second-hand car and public transport fares. Petrol and maintenance costs as well as public transport fares are based on a transport diary relevant to assumed average distances to services, employment and an annual week holiday. Child seats and booster seats are also included. There is no provision for air travel.

8. **Leisure**

This budget is based on a leisure budget for each individual. For children, toys, books and other leisure and sporting goods averaged over assumed lifetimes are included, as is video hire, a small amount of attendance at the cinema, zoos, etc (for the modest budget adequate level only), and increased photographic usage are also included. Costs for an annual week-long holiday is part of this item.

9. **Personal care**

This includes basic personal care items such as a toothbrush, soap, shampoo, deodorants and haircuts, as well as jewellery, makeup and sanitary items for women, and shaving for men and women.

Since the preparation and publication of these budget standards, based on Sydney households in the first quarter of 1997, the budget standards have been extended to other capital cities and other geographical locations, to create new household types, and updated to reflect changes in prices (see e.g. Henman 1998b, 2001, 2007a,

2007b; McHugh 2002; Saunders 2004; Saunders et al. 2004). However, as the average living standards in Australia change as a result of socio-cultural shifts and real increases in income and wealth, budget standards must ideally be revisited to reflect these changes. To date, the original budget standards have not been updated in this manner.

5 OPERATIONALISING A RESIDUAL INCOME APPROACH IN AUSTRALIA

The availability of budget standards for all capital cities and some regional areas for a wide range of household types provides an important resource for operationalising a residual income measure for housing affordability. The existence of budget standards for various living standard levels—low cost, short-term low-cost, modest but adequate and luxury—enables researchers to assess to what extent household can achieve these various standards after taking into account their actual housing costs. This opens up a range of opportunities for assessing post-housing living standards. Much policy concern is, no doubt, likely to focus on minimal benchmarks. How these Australian budget standards can be used to measure residual income housing affordability is the focus of this section.

The starting point is a summary of housing affordability research already conducted using Australian budget standards. This is followed by a description of the step-wise process required for deriving residual income measurements of housing affordability, a summary of datasets available to undertake this research and consideration of the research topics that budget standards-based residual research can address.

5.1 Residual research using budget standards to date

To date, only three known studies of residual measures of housing have been conducted using the Australian budget standards. As part of a much broader analysis of housing affordability, stress and wellbeing, Burke and Ralston (2003) used SPRC's low cost budget standards to assess housing stress statistics compared with typical ratio measures and the Henderson Poverty Line after-housing measure. Their approach was to revise the SPRC's budget standards by replacing the housing rent component with a mean housing cost from the ABS Household Expenditure Survey 1998–99. This revised low cost budget standard for various household types was compared with actual household disposable income. They found that the residual approach using budget standards led to significantly higher measures of housing stress than both 25 and 30 per cent ratio measures and also the residual approach using the Henderson Poverty Line. Interestingly, they found that the budget standards approach showed a smaller disparity between public renters and private renters in the bottom two income quintiles than the other approaches.

This is an important pioneering study in demonstrating the usefulness of budget standards as an additional method for assessing housing affordability. However, there are several methodological limitations in its use of budget standards. First, the study applies the budget standards for Sydney costs to all Australian households. Indeed, given that budget standards are based on the costs of goods and services in a particular geographical domain, it is methodologically problematic to have a national budget standard. Second, they replace the SPRC's public and private rent components with HES median rents to create a new 'national' low cost budget standard (incorporating housing and all other costs) which is then compared to household disposable income. A more accurate approach would be to use actual housing costs for a household and compare the after-housing budget standards with after-housing disposable income.

Two other studies use the budget standards to examine housing affordability among Centrelink renter clients using Centrelink's administrative datasets (Waite & Henman 2006; Waite et al. 2010). In Waite and Henman (2006) housing stress is calculated for Centrelink recipient households in Queensland only, while Waite et al. (2010) extend this work to examine Centrelink recipient households across Australia. In utilising this

dataset these studies compare households' post-housing costs disposable income with budget standards without housing costs. Thus, actual housing costs are used. An important innovation in this work is the generation of regional budget standards to reflect differences in prices as measured by the Queensland Office of Economic and Statistical Research regional pricing statistics (Queensland 2011).

Waite and Henman (2006) reinforce Burke and Ralston's (2003) finding that low cost budget standards are a less restrictive benchmark than ratio housing affordability measures, and thus are likely to overstate levels of housing stress. This problem is reduced by the use of short-term low cost budget standards, created by removing household durable costs, as demonstrated in Waite et al. (2010).

Significantly, Waite and Henman (2006) find that their residual housing approach suggest that the traditional ratio housing affordability measures understate the level of housing stress in workforce-age households (relative to retiree households), and understate the level of housing stress of households with one adult (relative to those with two adults). Moreover, Waite and Henman find that this finding is consistent with ABS financial stress statistics, a topic to be discussed further in Section 6.

Waite and Henman (2006) also find that the application of regional budget standards makes a significant difference:

... in some [Queensland] subdivisions there was a dramatic increase in the level of housing stress than would be indicated by either ratio affordability or unadjusted budget standards.

Another contribution of Waite and Henman (2006) is to ascertain the average level of Centrelink households that are above or below the low income benchmark. Such 'gap' measures are important in quantifying need, as well as demonstrating the sensitivity of benchmarks to small changes.

Waite et al. (2010) further expand on their earlier research by using a national longitudinal dataset to examine the dynamics of housing affordability among different Centrelink households over a three-year period. Their findings reinforce other international studies about the short-term nature of poverty among unemployed and student households, compared with disabled and retiree households.

5.2 Using budget standards to generate residual measures of housing affordability: a recipe

As the above summaries suggest, there are several ways in which to use budget standards to generate estimates of housing stress. This Essay argues that the approach used by Waite and colleagues reduces methodological pitfalls. At the heart of the residual income approach are two key steps:

1. Calculate residual household disposable income (RHI) for each household by subtracting actual housing costs (HC) from total household disposable income (HDI).

$$\text{That is } \text{RHI} = \text{HDI} - \text{HC}$$

2. Compare RHI with the disposable household income benchmark derived from the relevant household budget standards without HC. If it is higher than the benchmark, then the household has achieved the budget standard living standard (e.g. low cost). If it is lower than the benchmark then the household is unable to attain the living standard, and might be defined as being in housing stress, and their housing unaffordable. The result can also be expressed quantitatively as the amount of dollars above/below the standard (e.g. 'after housing income gap') or the proportion above/below the standard.

In order to undertake this task, key data items and methodological decisions need to be made. At a minimum, key data items are:

1. household structure
2. HDI
3. housing expenditure data and tenure type
4. household budget standard benchmarks.

A further useful data item is:

5. housing location.

We consider the methodological issues associated with each of these data items:

Household structure is important in identifying the budget standard benchmark appropriate for the given household. As budget standards are derived for specific household types some level of generalisation needs to occur in applying these to specific households. For example, budget standards for a couple—one employed and one not in the labour force—with a girl aged six, might be assumed to reflect the costs of all employed couple households with a child under 12. Given the wide variability of actual households, it may be impossible to find an appropriate benchmark. Indeed, Waite and Henman (2006) were only able to include 94 per cent of the original dataset in their analysis for these reasons. Housing structure is a typical requirement of housing and poverty research for equivalising income and comparing outcomes by household type, so it is not an unusual requirement.

Household disposable income is a necessary component for using budget standards for residual housing measures. This is because budget standards are expressed as expenditure required to achieve a particular standard of living. Household income comparisons thus need to be like with like. Alternatively, a mechanism is required to convert the budget standards to gross income for comparison with gross household income, or convert gross household income to disposable income using tax-benefit models. Such models are used in the Federal Government and by various researchers, such as NATSEM.

Housing expenditure data is necessary for calculating after-housing household income. As with other housing research (Gabriel et al. 2005), consideration needs to be given to what to include in housing costs (e.g. payment of mortgage principle, rates, home maintenance, house insurance) and this also needs to be reflected in the derivation of after-housing budget standards. This expenditure data also provides the basis for determining tenure type (i.e. private rental, social housing, purchaser, outright owner).

Household budget standard benchmarks are necessary for comparing with household after-housing income. As mentioned above, it is important to ensure budget standards for a wide range of household types and also consideration of geographical variation. Consideration also needs to be made on the benchmark living standard. The standard short-term low cost living standard does not include household durable costs. The modest but adequate standard can be used to ascertain the extent to which households are achieving middle Australia benchmarks (as done by Waite et al. 2010).

Housing location is an important additional item. It is not necessary if a national after-housing benchmark is used. However, given that budget standards are based on a geographical location and thus capture geographical variations in prices, household location is important. Unfortunately, given research on prices is largely focused on prices in capital cities, budget standards are typically only available for capital cities.

Deriving budget standards for other locations requires assumptions and data about non-capital city costs, as Waite and his colleagues utilise, but such data is not readily available or updated.

A final point to be made is that it is not necessary to equalise housing income to take account of household size, as this is embedded in the various budget standards benchmarks.

Australian research resources for residual income research

What datasets are available for undertaking residual income research? Table 2 summarises the various datasets as they relate to the three key data items previously outlined. Each of these datasets have slightly different approaches to the measurement of income and housing costs, and various data reliability issues. Accordingly, acquaintance with these issues is important in undertaking such research.

Table 2: Summary of key national datasets and data items

Dataset (latest, regularity)	Household structure	Household income	Housing-related expenditure
ABS, Census of Population and Housing (2006, every five years)	Yes	Yes, though income are only in ranges	Yes, includes rent, mortgage
ABS, Household Expenditure Survey and Survey of Income and Housing (2009–10, every five years)	Yes	Yes	Yes, includes repairs, maintenance, rent, interest costs
Household Income and Labour Dynamics in Australia (HILDA), Melbourne Institute (2010, longitudinal, annual)	Yes	Yes	Yes, includes rent, mortgage
FaHCSIA Longitudinal Dataset (LDS)	Yes, Centrelink clients only	Yes	Partial, rents only
Annual Australian Government Housing Dataset (HDS).	Yes, Centrelink clients only	Yes	Partial, rents only
Longitudinal Survey of Australian Youth (LSAY), ACER	Yes	Yes, tenure type not clear	Yes

ABS survey data is the most suitable source for residual analysis, due to its data completeness. However there are limitations in the use of Census data because income data is only collected in bands (thereby limiting precision of estimates of residual income). Census data is generally good for estimating at a small area level. Administrative source data such as FAHCSIA's Longitudinal data set (LDS) or the Australian Government Housing Data set (HDS), are also useful for this sort of analysis even though they only relate to Centrelink beneficiaries.

The other major dataset is of course Australian budget standards capturing a wide range of household types and updated to various points in time. At present, there is no formalised process for obtaining such budget standards. Budget standards have been published in a range of sources, including: Saunders et al. (1998, 2004); Saunders (2004); Henman (2001, 2007a, 2008); Waite and Henman (2005). More recently, Burke, Stone and Ralston (2011) have also used budget standards to calculate residual income measures of housing affordability. Access to these datasets may be obtained from these published sources, or by contacting the relevant researchers.

Possible avenues for research using budget standards residual measures

The past research summarised in 6.1 demonstrates some of the possibilities that budget standards provide for the analysis of housing affordability and related issues. Budget standards coupled with appropriate datasets can seek to identify several pertinent issues.

First, residual income methods using budget standards allow for a comparison with ratio measures. Because budget standards provide a more accurate picture of what is achievable after payment of housing costs, they are arguably more able to assess differences in housing stress by household type. While the low cost benchmark may well be too high, thereby resulting in high measures of housing stress, this can be made more realistic using short-term low cost budget standards. Moreover, the relativities between households are partly independent of the level of the benchmark. Second, this approach enables not only estimates of population numbers in housing stress, but also enables an assessment of the depth of that stress (i.e. the post-housing income gap). This gap can also be expressed in nominal dollars or as a percentage of the income benchmark. Third, geographical variations in both housing and non-housing costs can be taken account of to assess geographical variations in housing affordability. Finally, longitudinal data support considerations of housing affordability dynamics.

6 THE RESIDUAL APPROACH AND BEYOND: CONCEPTUAL IMPLICATIONS

A final purpose of this Essay is to demonstrate that housing research can learn from recent developments in poverty research by investigating, developing and using more outcome-focused research to enhance and deepen our knowledge of housing affordability and disadvantage. In order to progress this task, we return to a consideration of the recent evolution of poverty research and to a conceptualisation of housing and living standards.

6.1 Poverty research: from inputs to outcomes

As noted earlier, the international re-emergence of budget standards research reflects a wider response to traditional approaches to the research and measurement of poverty and a dissatisfaction with the limitations of earlier methodologies (see Saunders 2005, for an account of this intellectual journey). The new approach, pioneered by Townsend (1970, 1979), approaches poverty as a dynamic and multifaceted phenomenon. More recently the concept of social exclusion has been developed to further capture the multidimensional nature of poverty and has partly replaced poverty in political and academic discourses.³ At the heart of this shift is dissatisfaction with a sole focus on household inputs—namely income (as measured by ratio and other methods)—with a move to a consideration of what households were actually achieving with their income inputs. In short, some households manage well with small incomes for a variety of reasons, while others cannot manage with higher incomes. Budget standards shift the focus to outcomes by linking the income required to achieve a particular living standard level through the purchase of a specified basket of goods and services. But budget standards are only one method among many in this new approach to measuring poverty, wellbeing and living standards (see Saunders 2011, for an empirical overview using a range of methods).

Other approaches include *deprivation standards* which involves creating a list of socially perceived necessities, identified by experts or consensually through public input, and identifying households which do not have such necessities due to lack of income. Research using this approach has assessed the level of deprivation in Australian households (Travers & Richardson 1993) and relativities between household types (Travers & Robertson 1996). Saunders and Naidoo (2009; see also Saunders et al. 2008) have found that there is a considerable disparity between those households in poverty according to ratio measures and those who fall below deprivation standards. For example, ratio measures find that retiree households have high poverty rates and households with dependent children have low poverty rates, but this is reversed using deprivation indices. Because deprivation indices assess a household's access to various 'necessary' goods that is suggestive of longer-term wellbeing, it is argued that they are a better indicator of long-term wellbeing than point-in-time poverty measures.

Living standards research is similar in many respects to deprivation standards research, but differs in emphasising measurement of living standards across a wide range of domains or 'spheres of life', and in incorporating subjective measures of wellbeing, such as happiness and perceived health (Terrill & Brodie-Reed 1999). For example, *financial stress indicators* can measure realities and perceptions of financial difficulty independent of household income level.

³ The social exclusion literature is now voluminous and proliferating. See, for example, Hills et al. (2002), Levitas (1998), Byrne (2005, 2008).

Living standards and deprivation standards research both seek to identify poverty (or disadvantage) without primary reference to income (Saunders 2008). The move away from ratio measures of poverty and toward measures using budget, deprivation and living standards is also linked to the widening usage of the concept of *social exclusion*, a term also heralding a shift away from measures of monetary poverty to consideration of the variety of ways individuals, households and geographical areas can be socially disadvantaged.

6.2 Rethinking income, housing and living standards

These developments in poverty research, both in Australia and internationally over the last few decades, provide parallels with the debate over ratio and residual approaches to measuring housing affordability. In doing so, they point to ways in which the housing affordability debate can be broadened to also address issues of housing adequacy and the impact of housing and housing costs on household living standards and wellbeing.

Table 3: Approaches to researching and measuring income and housing adequacy

	Poverty research	Housing research
Input focused	Poverty lines, especially ratio of average income	Ratio measure of housing affordability
	After housing poverty lines	Residual income measure
	Budget standards	
↓	Deprivation indices	Housing quality measures Housing-related wellbeing
	Living standards	
Outcome focused	Financial stress indicators	

The foregoing review of developments in poverty and living standards research is summarised in the first column of Table 3.⁴ The Table illustrates the range of poverty research methods that focus on inputs—that is, income—at the top of the table, with a growing interest, development and use of research that is more focused on outcomes. The immediate question concerns the parallels with housing research. What are the housing research equivalents for outcome-focused measures?

To further assist the development of outcome-focused housing research, we now outline a conceptual approach to understanding the relationship and role of housing in living standards outcomes or achievements.

While housing and poverty policy and research remain somewhat distinct, the foregoing section suggests that there are close parallels. Housing and household income and their contribution to household wellbeing are closely intertwined. As housing costs are often the largest domain of expenditure for a household, they impact on the other goods and services the household can purchase and the extent to which income can be saved. Indeed, at the heart of much concern about housing affordability is a concern that housing costs create other problems for the household in not being able to finance other necessities of life or socially expected goods and

⁴ Whiteford and Henman (1998) provide a similar delineation among poverty research, but also distinguish between normative and descriptive research. Normative research involves measurements that define benchmarks of adequacy—whether they be financial (input) or ownership of goods and services (outcome), whereas the descriptive research simply describes the conditions of households. In this paper, we do not make this distinction, instead seeking to focus only the input/output aspects of poverty and housing.

services. For example, as noted earlier in this Essay, MacLennan and Williams suggest:

'Affordability' is concerned with securing some given standard of housing (or different standards) at a price or rent which does not impose, in the eyes of some third party (usually government), an unreasonable burden on household incomes. (1990, p.9)

However, it should be noted that MacLennan and Williams specifically avoid referring to minimum standards, but rather a broader 'unreasonable burden'. Yates (2007) explicitly examines the connection between housing stress and financial stress, and the extent to which the latter may result from the former. She finds that 'if a household is experience [sic] housing stress, there is a ten percentage point increase in the probability that it will also experience financial stress over and above, respectively, the impact of income, age, household type and tenure' (p.2).

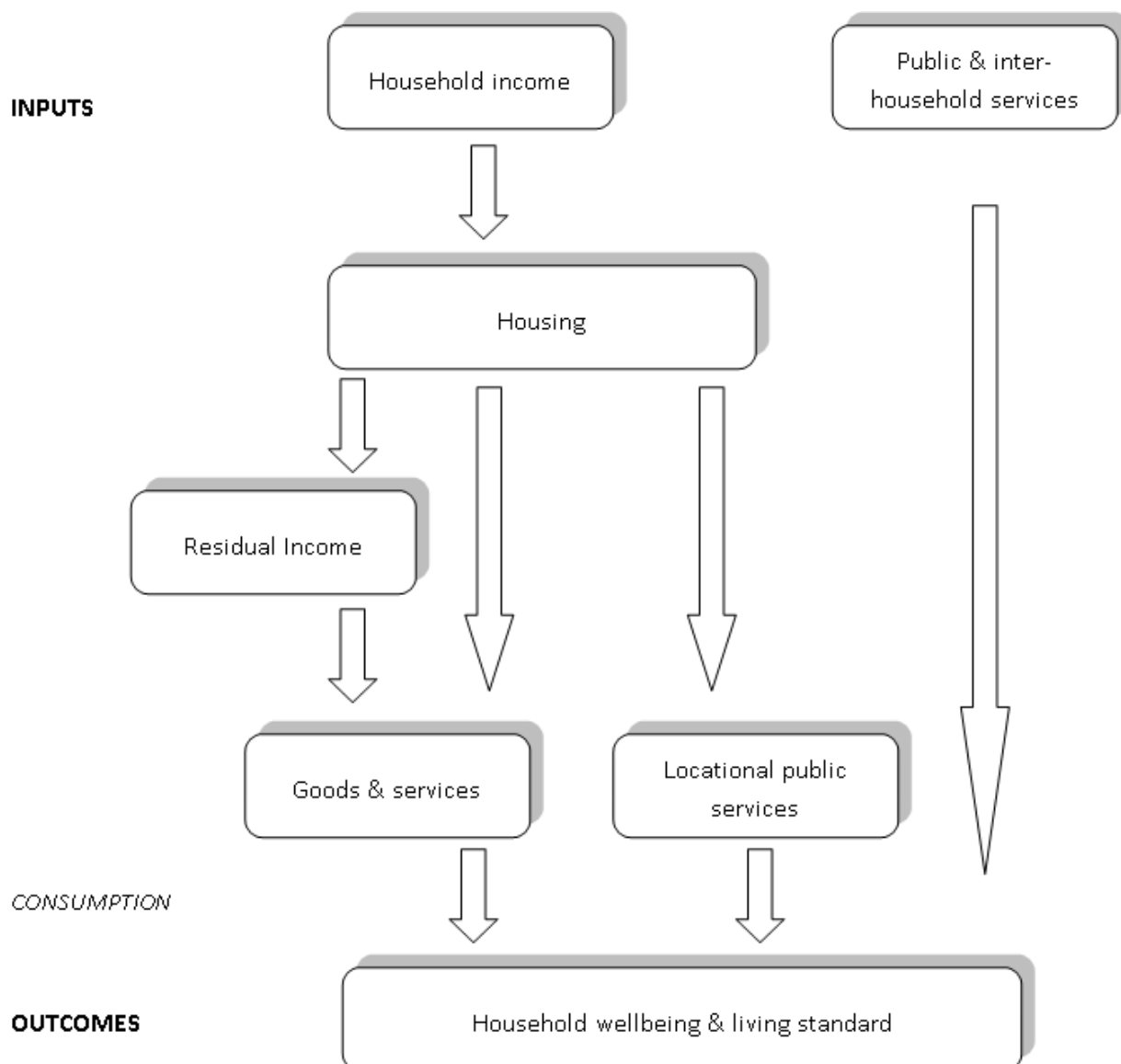
How then might we begin to conceptualise the relationship between housing, income and living standards? Figure 1 provides an outline of the framework we now develop. Following the recent evolution of poverty and living standards research, our approach begins by identifying a household's inputs and how they translate to outcomes. While explaining this framework we simultaneously discuss ways in which the various components can be identified, described and measured.

Households have a wide range of inputs, but typically the focus of most housing and poverty research is on income, that is, money. Such income includes income through employment, self-employment and the black economy, as well as government income support and family benefits from social security. In addition, households may receive financial support from family and friends in the form of gifts or 'loans'. These are called inter-household transfers. Methodological considerations include whether to measure income as gross or net of income tax.

In addition, households receive a range of other inputs, especially publicly provided services (top right of Figure 1). These include access to schooling, public hospitals, council libraries, parks and reserves, disability services and community health services. Some of these incur co-payments, but many are free.

More difficult to place are the range of financial benefits governments provide in addition to regular payments. Medicare provides monetary rebates for GP services (or provides it as a service when GPs bulk bill). State and Federal governments provide rebates on the purchase of water tanks and solar heating and grants to first home buyers. These financial inputs are not measured in household income, but arguably form a part of it.

Figure 1: A conceptual framework for measuring housing, income and living standards



From household income, households typically purchase housing through home ownership or renting. Given that households usually pay a fixed and unnegotiable amount in mortgage or rent payments, they can conceptually be regarded as being paid prior to the purchase of other goods and services from the resulting residual income, as argued in Section 5.2.⁵

The specific dwelling itself also provides access to services specific to the dwelling structure itself (the middle downward arrow from 'Housing' box). The physical structure provides shelter from the elements, which is tempered by the dwelling's heating and cooling construction and devices (i.e. heaters, fans and air conditioners). Normally, access to potable water, sewerage and fuel (i.e. electricity and gas) is also included within the construction. Security of person and possessions is a further service, subject to locks and secure entries. The structure of the dwelling is also important for people with access and mobility impairments.

⁵ It is noted that some housing researchers take the reverse perspective, viewing payment of housing costs after purchase of household necessities and asking whether there is sufficient income to pay those housing costs, and possible rent/mortgage default that may result (e.g. Burke & Ralston 2003).

A dwelling's location also provides access to a range of various locational-based public and private amenities and services (either for free or purchase). These include specific schools, parks, libraries, public transport, employment markets, shopping facilities, health services and transport corridors. They also include access to social relations, such as the community and family and friends.

Thus, housing results in three different outputs: residual income; dwelling facilities and access to locational amenities (the three arrows from the 'Housing' box). It is the actual *consumption* of these outputs—not their existence—that co-constitutes an individual's and household's level of wellbeing and living standards, that is, the outcomes. Consumption is the key to the translation of money and (access to) services to wellbeing, as it is through purchase and consumption that these goods and services make up an individual's and household's wellbeing. For example, the ownership of bread and milk do not in themselves contribute to the maintenance of a person's health, but their consumption. Similarly, the ownership of a telephone or internet service do not in themselves contribute to an individual's and household's maintenance of social networks, the attainment of employment or the receipt of government benefits and services. It is through the use of the telephone or internet that these outcomes can be achieved.

As Whiteford and Henman (1998) point out, the Australian Bureau of Statistics (1995) makes a similar observation in its conceptualisation of economic wellbeing. The ABS argues that economic wellbeing can be examined from 'the receipts side i.e. the household's capacity to consume and save', including income and the in-kind resources provided by household assets, including the dwelling, car and furniture. Or economic wellbeing can be examined from the 'consumption side i.e. the household's actual consumption', including expenditure of income and use of in-kind resources from household assets.⁶

Furthermore, the three domains—residual income, dwelling facilities and access to locational amenities—affect people differently. In particular, different people have different needs (and wants). Children require schooling, sick people need access to health services, and people with impairments require accessible housing and local amenities. In this regard, Sen's notion of capabilities points to the important interaction between individual and environmental capabilities and their overall contribution to wellbeing (1985).

This conceptual framework highlights several significant points. First, it demonstrates that housing is only one aspect, albeit a major aspect, in the achievement of household wellbeing. Consequently, it is difficult to clearly isolate housing and its direct contribution to living standards and wellbeing. Second, the framework emphasises that focusing primarily on inputs—as ratio measures of both housing and poverty do—is a significant conceptual distance away from the lived experiences of individuals and households. While these proxies may be useful indicators of such lived experiences—and this remains an empirical question—they do not directly measure it. Third, this framework (as well in Table 3) points to the potential for housing research to develop and utilise methodologies that focus more explicitly on outcomes.

We turn now to a discussion of how these conceptual developments might be advanced methodologically.

⁶ See Whiteford and Henman (1998) for a more detailed discussion of these conceptual issues.

6.3 Researching housing outcomes

As the previous section demonstrated, developing a more holistic, nuanced and arguably accurate understanding of the experience of housing and housing disadvantage requires a wider housing research practice than a fixation on ratios, most notably because they tell us very little about the lived experience of housing.

Using and expanding methodologies for measuring wellbeing or living standards resulting from housing remains important for a more in-depth and accurate understanding of housing stress. Indeed, a focus on affordability and not on income and housing costs neglects a very significant aspect of housing and its contribution to wellbeing, namely housing quality and housing location. A household may be measured to be in housing stress, but they may have poor quality housing and lack access to important social and economic resources appropriate to that household as a result of an inability to afford more appropriate housing.⁷

In developing this research area, Figure 1 demonstrates that household wellbeing and living standards result from both household income (the traditional focus of poverty researchers) and housing (the traditional focus of housing researchers). Thus, it is somewhat difficult to disentangle the contribution of housing to overall household wellbeing.

Fortunately, there is already a body of housing research that focuses on housing outcomes, including housing quality, housing adequacy and housing appropriateness. In what follows we focus on the directions for housing-focused contributions to wellbeing and living standards. In this regard, we can delineate several strands of research.

First, there are now increasing numbers of wellbeing and deprivation measurements being included in ABS and other surveys. These provide opportunities for housing researchers to compare and contrast housing measures with household wellbeing measures. For example, Yates (2007) demonstrates that housing stress using the traditional 30/40 ratio measure is often co-present with financial stress. Using the ABS Household Expenditure Survey 2003–04, Waite and Henman (2006) find that the distribution of financial stress between household types is more consistent with residual income measures of housing affordability than the ratio measure. This insight suggests that residual income measures provide a more accurate assessment of outcomes than the ratio measure, at least relatively, if not absolutely. Bradbury and Gubhaju (2010) seek to capture living standards among the elderly after housing using a range of monetary measures, including levels of consumption. In the UK, Bradshaw et al. (2008) argue that housing is a critical component of living standards alongside cash income.

A second strand of housing outcome research involves a consideration of housing quality, encompassing dwelling structure and the physical amenities of the housing. This domain of research is more advanced and widespread in Europe than in Australia (e.g. Lelkes & Zólyomi 2009) and includes the long-standing English House Condition Survey (UK 2011). There are some datasets that do assess these aspects of housing. The ABS Survey of Income and Housing 2007/08 (Cat. No. 6553.0), and its predecessors 2005–06 and 1997, are such valuable datasets.

A third aspect of housing-related wellbeing and living standards are the locational elements of housing, that is, what geographical location enables households to access.

⁷ Burke and Pinnegar (2007) provide a very engaging examination of the trade-offs people make in balancing housing costs with other household wants and needs.

Housing appropriateness is a fourth housing-related domain of wellbeing. While the previously mentioned domains measure objective elements of housing and its locational aspects, this domain considers how these interact with a specific household and individuals in that household, including for example, disability and access, employment markets, health services and overcrowding. This insight also brings us back to conceptual observations about housing affordability outlined in Section 2.

Finally, there is the issue of happiness and the role of housing in subjective wellbeing (Clapham 2010). In this regard, it should be recognised that it is well documented that subjective wellbeing is poorly correlated with financial stress. This domain also raises the question as to whether public policy should be concerned with happiness and subjective wellbeing.

7 CONCLUSIONS

In the context of recent developments in Australian poverty and living standards research, and particularly the development of budget standards, this Essay began with the objective of articulating, assessing and outlining residual income approaches to assessing housing affordability. It has demonstrated that the residual income approach does have merits vis-à-vis traditional ratio approaches to assessing housing affordability. Moreover, use of the residual approach (also known as 'after housing poverty') has produced different understandings of relativities between household types than those derived from the ratio approach. As such they can provide a highly useful supplement to ratio measures.

In order to assist in the take-up of residual income methodologies, this Essay outlined the necessary data items, a step-by-step method and the available data sources for deriving ratio income measures of housing affordability.

Perhaps even more importantly, in the process of thinking about housing affordability in the light of recent developments in poverty and living standards research, the Essay has demonstrated the ways in which this area of housing research might move beyond research methodologies focused on household inputs, to approaches more focused on households outcomes or achievements. A conceptualisation of the relationships among housing, income and living standards was outlined as a basis for building such a research agenda. It is hoped that such work can now flourish.

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