Final Report

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The impacts of the Henry Review recommendations on the private rental market

Savings income discount and rent assistance

authored by

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ACRONYMS

ABS	Australian Bureau of Statistics
ATO	Australian Taxation Office
COAG	Council of Australia Governments
CPI	Consumer Price Index
CRA	Commonwealth Rent Assistance
FTB	Family Tax Benefit
FTB(A)	Family Tax Benefit Part A
GFC	Global Financial Crisis
HAR	Housing affordability ratio
HAS	Housing affordability stress
HECS	Higher Education Contributions Scheme
HILDA	Household, Income and Labour Dynamics in Australia
HSARWP	Housing Supply and Affordability Working Party
MITR	Marginal Income Tax Rate
IRR	Internal Rate of Return
ISP	Income Support Payment
NHSC	National Housing Supply Council
SID	savings income discount
SIH	Survey of Income and Housing

EXECUTIVE SUMMARY

This is the first of two Final Reports that aims to address the following research question highlighted in AHURI's housing supply research brief:

> What is the impact on supply and affordability from implementation of the Henry Review recommendations in relation to negative gearing, land tax and stamp duty?

There are two main recommendations from the Henry Review on tax reform, which have a *direct* bearing on supply and affordability in the private rental housing system:

1. Stamp duties on conveyance are to be abolished and replaced by a broad based land tax, which is levied according to a progressive rate structure applied to the value of land per square metre.
2. A savings income discount (SID) of 40 per cent will apply to the net rental income (including capital gains) from most non-business assets other than shares.

We estimate the impacts of the SID on housing supply and affordability in the private rental market in this report; the impacts of the proposed reforms to stamp duty and land tax will be addressed in our second report. Important changes to Commonwealth Rent Assistance (CRA) are also recommended as part of the Henry Review; as these would affect our assessment of tax reform impact on housing affordability, and this report also presents findings on how these changes might alter private renters' housing cost burdens.

The SID is designed to offer a more balanced tax treatment of rental income and capital gains, while curbing some of the tax shelter benefits from negative gearing. Instead of including 100 per cent of net income from property investments in assessable income, the investor will be required to report 60 per cent as assessable income. At present 50 per cent of capital gains are taxed; under the reform, 60 per cent will be taxed so the application of the SID on capital gains tax will blunt incentives to 'chase' capital gains.

Our analysis is based on policy simulation exercises conducted using AHURI-3M, a comprehensive housing market microsimulation model that contains the key tax and transfer parameters impacting both housing suppliers and consumers (see Wood & Ong 2008). The model is currently operationalised on the 2006 Household, Income and Labour Dynamics in Australia (HILDA) Survey, which contains a wealth module that allows us to observe landlords' property portfolios. We utilise AHURI-3M to estimate the after-tax economic costs incurred by investors under current arrangements and post-SID reform. We follow this exercise by estimating the propensity of landlords in 2002 to retain rental investments in 2006 using the *market conditions and portfolio* probit model developed by Wood and Ong (2010). This model contains after-tax economic costs as one of its key variables; we are therefore able to predict the behaviour of landlords under SID reforms by replacing landlords' after-tax economic costs before the reform with those estimated once the SID has been applied to net rental income and capital gains/losses.

We find that negatively geared investors are adversely affected by the SID reforms; their average after-tax economic cost rises 50 *basis points* from 8.0 to 8.5 per cent. However, positive net rents accrue to other investors and SID therefore results in a lower tax burden on rents because 60 per cent of their rent income is assessable, rather than 100 per cent. Despite more heavily taxed capital gains, the average after-tax economic cost of these investors falls by 50 *basis points* to 7.5 per cent. Some commentators express fears of a contraction in private rental housing stock as

negatively geared investors may find that curbs on their capacity to deduct losses make retention of rental investments less financially attractive. However, our estimates suggest that supply responses will be offsetting as equity investors are more likely to retain investments under the SID reforms, whilst the negatively geared are more likely to sell their rental investments.

Measures of the impact on tenant rents assume a long run market clearing mechanism in which market rental *rates* converge on investors average user cost of capital. As the majority of investors in our sample are made up of landlords with positive net rents, we estimate a fall in the market rental rate of 30 *basis points* (8.0% to 7.7%), or 3.5 per cent as a result of the SID. We apply this percentage reduction to tenants' rents. We are able to compute eligibility and entitlements to CRA by using AHURI-3M. We find that the average annual rent falls by just over $300, but because CRA is related to rents paid, this translates into a smaller $285 per annum reduction in housing cost outlays. Broad based changes that impact on the supply side are not targeted, so it is unsurprising to find that the reduction in housing costs is greatest for tenants in the more expensive segments of the market. Because tenants in these expensive segments are all paying a rent well above the maximum CRA threshold, their entitlements are unaffected by the 3.5 per cent fall in market rents. Similarly, as the effects of tax reform are in absolute terms larger in the more expensive segments where tenants typically have higher incomes, the effects on housing affordability ratios (HARs) and rates of housing affordability stress (HAS) are modest. In the more affordable segments the impacts are marginal. It turns out that Henry Review recommendations on reform to CRA are much more significant.

Apart from addressing the possibly adverse supply and rent consequences of the SID reforms, the more important motivations behind the Henry Review's proposed CRA reforms appear to be better targeting of assistance, its more accurate indexing to rents and the separation of income support and family payments as regards their role in meeting housing costs. The recommendations offer tenure neutral assistance for the incremental housing costs associated with *children*, while fully integrating CRA within income support programs for *adults*, such that an adult paying a rent of $X will receive the same CRA whether or not a parent. Tenant families eligible for Family Tax Benefit Part A at more than the base rate, but ineligible for an income support payment (ISP), lose all CRA entitlement.

We estimate that under existing arrangements, over 1 million individuals or one-third of private renters receive CRA. Almost one-third (329 000) of CRA recipients become ineligible and lose all their CRA entitlements upon introduction of these CRA reforms. They are typically younger families with at least one parent employed and incomes further up the income distribution than typical for CRA recipients. Less than 1 per cent gain eligibility because minimum rent thresholds decline under the Review's recommendations. On the other hand there is a substantial improvement in the housing affordability position of those hanging on to their eligibility status. Indeed the proportion of private renters in housing stress drops from 37 to 29 per cent following introduction of changes to both thresholds and eligibility criteria. Overall, the proposed CRA reforms would reduce Commonwealth spending on rent assistance for private renters by around 20 per cent, from approximately $1.9 billion to $1.5 billion.

Our findings are subject to some caveats. Due to data limitations, the estimates are for the year 2006. The next wealth module will be in available in the 2010 HILDA Survey, which will be released in early 2012, permitting a timely opportunity to update AHURI-3M to provide more contemporaneous findings for private investors. The longer timeframe offered by the wealth modules in the 2002, 2006 and 2010 data offers opportunities to expand the analysis to identify factors shaping decisions that

will *add* rental property investments to wealth portfolios. It will also allow investigation of churning patterns in and out of rental property investments by landlords, which may be prompted by refinancing to more fully exploit negative gearing tax shelter benefits. Due to varying estimates from existing datasets, we are also unsure about the extent of negative gearing in Australia.

The Review's recommendations to increase family payments conditional on the age of children may help offset losses for families losing CRA eligibility under the proposed CRA reforms. However, reforms of the family payment system are outside the scope of this project. An important future research direction is an accounting exercise with respect to the full range of changes (ISPs, family payments and taxes) affecting the clients of housing assistance programs that summarises the net impact of the various reforms on public housing and CRA tenants to inform policy debate on how the affordability position of clients is impacted by federal government policy.

1 INTRODUCTION

1.1 Key research question

The research project's aim is to deepen the evidence base on housing supply and contribute to the policy debate in support of the work being undertaken by Housing Ministers, the COAG Housing Supply and Affordability Working Party (HSARWP) and the National Housing Supply Council (NHSC). The AHURI Research Brief 'Research on housing supply' highlighted the following key research question:

> What is the impact on supply and affordability from implementation of the Henry Review recommendations in relation to negative gearing, land tax and stamp duty?

In this report, we estimate the impacts of the Review recommendations in relation to negative gearing and take into account proposed changes to CRA. Reforms to stamp duty and land tax will be addressed in our second report.

1.2 Current tax arrangements

Since the proposed taxation arrangements impact landlords (investors), this report concentrates on the supply of rental housing. Under current taxation arrangements, the market supply of rental housing is dominated by private individuals—often characterised as 'mums and dads' investors—who typically own a single rental property. They must add 100 per cent of net rental income to assessable income from other sources, which is then taxed at the investor's marginal rate.[1] Investors can deduct ongoing expenses that include repairs, land taxes, rates and most importantly the interest payments on debt that has financed the rental investment's acquisition; interest payments servicing loans financing improvement and renovation are also deductible. In addition, depreciation for amenities (hot water systems, stoves etc.), and a capital works deduction that amounts to 2.5 per cent of building construction outlays can be deducted from assessable income. If the expenses associated with a rental property exceed gross rental income, the loss can be deducted from other sources of assessable income; these tax shelter benefits are commonly referred to as negatively gearing a property investment. Estimates from Australian Bureau of Statistics (ABS) datasets suggest that between one-third and one half of investors are negatively geared.[2]

On selling property investments, landlords' capital gains must be declared as assessable income, but since 1999 only 50 per cent of capital gains are taxable at the investor's marginal tax rate. The cost base, used to calculate capital gains, includes both the acquisition price and the transaction costs associated with purchase (e.g. stamp duties and conveyance fees). Selling costs such as real estate agents fees can be subtracted from proceeds. Before 1999, landlords were taxed on real capital gains that are gains adjusted for inflation. This was achieved by indexing the cost base to the rate of consumer price inflation, and these arrangements were grandfathered for those holding rental property investments in 1999. If, roughly speaking, house prices

[1] For couple income units, each partner adds their share of net rental income to taxable income and each is then taxed at their individual MITR.

[2] According to the 1997 Rental Investors Survey, 36 per cent of landlord income units that own residential dwellings were negatively geared. The 2006 HILDA Survey reveals that 33 per cent of landlords were negatively geared in 2006. The proportion of negatively geared is somewhat higher in the 2005–06 Survey of Income and Housing at 50 per cent. These estimates are well below those reported in the Australia Tax Office's 2006–07 taxation statistics. We take up this issue later in the report (see Section 2).

appreciate at less than twice the rate of general inflation investors have lower after-tax returns under current than pre-1999 capital gains tax arrangements. While many if not most landlords will end up paying more capital gains tax under the current arrangements, the real issue for many is the failure to tax real rather than nominal gains.

It is important to acknowledge the role of state government tax measures.[3] Stamp duties are liabilities that must be met by the purchasers of residential property; in some states, the duty schedules differ depending upon whether the housing has been purchased as a principal residence or as a rental investment. Where differences do exist, duty schedules impose a higher tax burden on rental investments. For example, a Victorian investor paying $400 000 for a house will pay a 6 per cent marginal rate of duty, 1 percentage point higher than that paid by the (repeat) home buyer.

An important recurrent tax liability arises as a result of the application of land taxes to the unimproved capital value[4] of residential land, which exempts land used for owner occupied housing, but includes land used for private rental housing. Typically state governments apply land tax above a value threshold, so that small plots of land (individually owned—see below) of relatively low value are zero rated. There is then a progressive schedule with marginal rates that increase with the value of the land. An important feature of land tax arrangements is its measurement of the tax that base on a cumulative basis. Thus owners of multiple properties are taxed on the cumulative value of land plots owned, rather than separately applied to the value of each individual land plot.

1.3 Tax reform motives

The motivation for tax reform is commonly presented under two headings—efficiency and equity. Current tax arrangements can be viewed as a barrier impeding the supply of affordable private rental housing, and hence a source of inefficiency. Investors are encouraged to debt finance their 'chase' for capital gains that are lightly taxed in comparison to ordinary sources of income such as rental income. These tax incentives are particularly strong for high tax bracket investors; their relatively high tax burdens on other sources of income can be alleviated on gearing property investments and using losses to shield them from tax. Tax shelter benefits are augmented by the accumulation of capital gains that are lightly taxed, because only 50 per cent are included in assessable income, and the tax liability is deferred until the investment is realised. These tax arrangements reduce investors' after-tax economic costs (user cost),[5] and the 'hurdle rate' that gross rental yields must exceed if they are to obtain a return comparable to the next best alternative investment. Since high tax bracket investors benefit most, their after-tax economic costs fall by the biggest margin. Low tax bracket investors will typically have higher after-tax economic costs, and this is reflected in higher gross rental yields. They will also typically invest in

[3] There are also municipal/local government rates, but these property taxes are relatively unimportant, and it is debatable whether they should be more properly described as a user charge for local public services such as refuse collection.

[4] Unimproved capital value is the assessed market value of land in the use that maximises value, but excluding the value of buildings that have been constructed on the land. Unimproved capital value can include the value of 'merged improvements such as drainage, mains water connection and so on.

[5] Economic cost adds the return sacrificed on investors' equity stakes and deducts capital gains from their financial outlays on repairs, rates, and interest and principal repayments on loans. It is typical to define economic cost on an after-tax basis thus incorporating the tax shelter benefits of deductions, lightly taxed capital gains and land taxes into the measure. The investor's after-tax economic costs are the 'hurdle rate' that gross rental yields must exceed if they are to obtain a return comparable to the next best alternative investment. Economists often refer to it as user cost.

properties with lower capital values, though this pattern will be tempered by life cycle considerations.[6]

Table 1 illustrates by grouping a sample of investors into quartiles according to their after-tax economic costs.[7] These (mean) costs increase from 7.6 per cent in the lowest quartile to 8.5 per cent in the highest quartile, and 1 percentage difference that translates into an $4763 per annum difference at the mean property value of $529 230. Gross rental yields are elastic, rising from 4.3 per cent to 5.9 per cent over the same quartiles. Those with relatively high after-tax economic costs charge higher rents relative to property values. These are very clear patterns and investigations in earlier work document the importance of tax arrangements (Wood & Tu 2004).[8]

Table 1: Mean and median property value, gross rental yield and after-tax economic cost, 2006

Economic cost quintiles	Number of investors	Property value $	Gross rental yield %	Economic cost %
Mean				
1	122	534,311.5	4.3	7.6
2	123	659,873.3	4.3	7.8
3	122	524,868.8	4.1	8.0
4	123	540,414.1	4.9	8.1
5	122	385,518.8	5.9	8.5
All	612	529,229.8	4.7	8.0
Median				
1	122	175,000.00	3.8	7.6
2	123	282,500.00	3.8	7.8
3	122	380,000.00	3.8	8.0
4	123	600,000.00	4.3	8.1
5	122	1,000,000.00	5.0	8.4
All	612	374,250.00	4.1	8.0

Source: Authors' own calculations using 2006 HILDA survey

The majority of investors in private rental housing are private individuals. Companies and superannuation funds are noticeable for their absence in the market. There are some important tax related explanations. 'Super' funds cannot debt finance investments and cannot therefore take advantage of the tax shelter benefits, which available to 'mums and dads' investors who report net rental income and capital gains under personal income tax regulations. While companies can debt finance property investments the 30 per cent company tax rate means that the tax shelter benefits are not as attractive compared to those obtained by individual investors in the higher tax

[6] Older and retired investors that have accumulated wealth in property during working years and have retained their investments, may well have currently low tax rates, but own high value investment properties as a consequence of past decisions made when belonging to a higher tax bracket. We are grateful to Judy Yates, University of Sydney for this idea.

[7] Details on data sources sample selection and measurements issues are set out in Section 2 below.

[8] There are other factors that will shape these patterns and mask the clientele effects discussed in this paragraph. Life cycle (see footnote 6) and borrowing constraints can, for instance, prevent younger high tax bracket investors acquiring the high value properties that past capital growth suggests will continue to appreciate at rates faster than those typical in housing markets.

brackets.[9] Furthermore, business losses are quarantined and can only be deducted in future years against income from the same business or other business that belonging to the same company, while capital gains do not attract the 50 per cent discount extended to individual investors (Stewart 2010, Chapter 1). 'Super' funds are further disadvantaged by a thirty three per cent and one third discount on capital gains as compared to the 50 per cent discount extended to 'mum and dad' investors. Finally, if companies or 'Super' funds introduce residential property investments into portfolios, they will invest on a multi-property basis, and be hit by the cumulative methods of assessment used for land tax purposes (see Section 1.2 above). These tax arrangements make it more difficult for companies, property funds and financial institutions to obtain satisfactory returns on residential housing portfolios; while 'mum and dad' investors obtain acceptable returns at the prevailing gross rental yields, the tax disadvantaged position of companies, property funds and financial institutions can push returns down to unacceptably low levels. Their absence from the supply side of the private rental housing market can be a potentially significant factor contributing to the shortage of affordable rental housing.

The resilience of housing markets in response to shocks is a topic attracting much more attention since the Global Financial Crisis (GFC). The wave of mortgage delinquencies and defaults in the wake of slumps in house prices alarmed policy-makers in the countries that most affected by the GFC. Of particular relevance is the argument that 'debt bias' is encouraged by the deduction of interest payments without limit. High tax bracket investors have an incentive to churn in and out of property investments to refinance at high gearing ratios that preserve tax shelter benefits.[10] Highly geared investors are exposed to price and liquidity risk; foreclosures will, as we have seen in the United States, seriously depress housing markets when they reach a sizeable fraction of sales. Macroeconomists fear downturns in housing prices can trigger wealth effects that spill over into the rest of the economy (see Muellbauer 2011, forthcoming). There is a second concern advanced by Case and Quigley (2010) who suggested that preferential housing tax arrangements exacerbate housing market volatility, because they are strongly procyclical. Because Australian home owners cannot deduct mortgage interest payments, and housing markets in this country proved resilient to the GFC, these fears are voiced less often in Australia.

A major part of the case for reform of housing taxation provisions rests with the inequitable incidence of preferential tax provisions (tax expenditures[11]) extended to home owners, including capital gains tax exemption and untaxed imputed rents. We have known about this perverse distribution of assistance through the tax system for many years, Flood and Yates (1987) being among the first in Australia to offer detailed estimates. Table 2 offers some more recent estimates (2006) from the background housing and taxation research paper that prepared for the Henry Review. It uses the confidentialised unit records from the Household, Income and Labour Dynamics in Australia (HILDA) Survey and AHURI-3M model to estimate the tax expenditures, which are received by households at different points in the life cycle and

[9] One-quarter of rental investors have marginal income tax rates in excess of 30 per cent.

[10] Wood and Ong (2010) find that negatively geared rental investors are more likely to terminate leases at any point in an investment spell, and preliminary findings indicate that they are churning in and out of rental investments. Qualitative findings from Seelig et al (2009) also indicate that negative gearing is a deliberate strategy of some investors who churn in and out of rental property to remain negatively geared.

[11] Tax expenditures (subsidies) represent a preferential treatment because they are a departure from the benchmark or normal taxation of a source of income, asset or component of spending. Tax expenditures can be provided in the form of a tax credit, tax exemption or tax deduction (see Bourassa 2011, forthcoming).

at different income levels.[12] The typical home owner benefited from tax expenditures of $3892 per annum in 2006, or 5.5 per cent of income. But the distribution is very uneven with strong life cycle and income patterns.[13] The tax system delivers most subsidies to older Australians, while the young can be disadvantaged by a tax *penalty* that arises because a 'level playing field' would treat home buyers in the same way as investors, and allow deduction of mortgage interest payments. While older Australians benefit; it is the higher income, middle aged and mature aged Australians that gain most from the tax system.[14] These features are viewed in most of the academic literature as inequitable; subsidies are received by high income households who are not in need of support, and at a time in the life cycle when they offer least assistance to those aspiring to home ownership. The Henry Review recommendations (see below) leave the main sources of unequal incidence untouched on the grounds that tax expenditures favour the accumulation of housing wealth during working lives, and is therefore an important pillar supporting the Australian retirement incomes system. Further discussion of these matters is beyond the scope of the present research project, but will be taken up in Wood and Ong's AHURI funded Essay on sustaining home ownership in the 21st century.

Table 2: Mean tax expenditure including capital gains tax exemption, by age and gross income quintile, 2006

Age (years)	Gross income (Y) quintile ($'000)					All
	Y<=22	22<Y<=39	39<Y<=65	65<Y<=99	Y>99	
	Dollar value ($)					
25-34	473.3	1282.3	79.2	-206.3	-148.1	48.0
35-49	976.5	2347.3	2091.2	2674.5	4477.3	3061.5
50-65	2349.0	3451.2	4689.1	5616.0	7336.3	4911.4
>65	2523.5	4889.0	9967.1	9934.4	16639.5	5104.3
All	2308.9	3798.6	4028.3	3653.1	5451.6	3891.8
	Per cent of income (%)[a]					
25-34	3.7	4.1	0.2	-0.3	-0.1	0.1
35-49	10.3	7.3	3.9	3.2	2.9	3.3
50-65	24.7	11.2	9.0	7.0	4.7	6.7
>65	16.9	17.3	20.1	12.7	9.7	15.6
All	18.0	12.7	7.7	4.5	3.5	5.5

Source: Wood, Stewart and Ong (2010)

Note: a. Mean tax subsidy divided by mean gross income and expressed as a percentage.

Table 3 presents estimates of the amount of CRA and eligibility rates among a sample of 1557 private renters. The average annual (2006) CRA benefit is $901 (expressed across all private renters), which is considerably below the average housing tax

[12] See Section 2 for a description of the HILDA Survey and the AHURI-3M model.

[13] In Table 2 incomes have been adjusted using equivalence scales. The OECD (1982) equivalence scales are used, where a weight of 1 is assigned to the first adult member of the income unit, 0.7 to the second adult member, and 0.5 to each dependent child. A couple with two children is assumed to be the standard income unit, that is, for couples with two children, their equivalised income is simply equal to their reported unequivalised income. The income of all other income unit types is adjusted with reference to couples with two children as the standard income unit.

[14] These estimates were reported in Wood, Stewart and Ong (2010, Table 4.3). Similar findings were reported in Yates (2009).

expenditure received by home owners ($3891). Regardless of age group, CRA is targeted on those in the lowest 40 per cent of the income distribution, becoming a progressively smaller percentage of income as we reach higher income quintiles; no renters in the highest income quintile are eligible. Because it is a transfer program targeted on low-income tenants, CRA makes a significant contribution to alleviation of HAS at the lower end of the income distribution. Among tenants in the lowest income quintile, payments of CRA lower housing affordability ratios from 27.1 to 21.3 per cent of income (Wood, Stewart & Ong 2010, p.65).

Nevertheless the Henry Review recommended changes to CRA in order to improve targeting. The review argues that indexing of maximum rent thresholds (at which CRA is capped) to the Consumer Price Index (CPI) will result in assistance lagging behind housing costs when rents increase at a pace faster than the general price level. It also suggests that the current policy arrangements 'blur the roles of income support and family payments' (p.604). All parents receiving income support (say Newstart allowance) also receive Family Tax Benefit (FTB) Part A. FTB acknowledges the additional costs of raising children, including housing costs, and is paid at the same rate to all parents regardless of tenure. On the other hand rent assistance should, in the opinion of the Review, 'ensure that *adults* with limited means can afford to live in an adequate standard of rental housing' (p.612). Yet parents living in private rental housing and receiving both income support and FTB are eligible for CRA, despite allowance in family payments for their housing costs; furthermore, parents living in the same tenure and receiving FTB (Part A) at more than the base rate but no income support also get CRA (as well as family payments), despite the adult parents being deemed to have income high enough to rule them ineligible for an ISP. The horizontally inequitable position is aggravated by higher maximum rates of rent assistance that apply for parents with children. There is then a duplication of assistance with rental costs in CRA and family payments and an unfair treatment of parents with limited means and purchasing their homes as home owners. The Review recommends that CRA target adults with incomes that low enough to warrant ISPs, while family payments target the additional housing (and other) costs associated with children. We offer empirical estimates of the recommendation's impacts later in the report.

Table 3: Mean CRA, by age and equivalised disposable income quintile, 2006a

Age (years)	Equivalised disposable income (Y) quintile ($'000)					All
	Y<=37	37<Y<=58	58<Y<=81	81<Y<=114	Y>114	
	Dollar value ($)					
25–34	1545.2	2083.3	557.1	22.1	0.0	697.6
35–49	1717.3	2040.4	931.6	98.9	0.0	968.9
50–65	1402.3	1595.5	959.3	54.5	0.0	807.5
>65	1772.0	1663.2	2185.6	594.1	0.0	1620.4
All	1625.4	1954.3	818.1	65.1	0.0	900.7
	Per cent of income (%)[b]					
25–34	6.5	4.4	0.8	0.0	0.0	0.8
35–49	6.3	4.4	1.3	0.1	0.0	1.2
50–65	5.0	3.3	1.4	0.1	0.0	0.9
>65	5.2	3.8	3.6	0.7	0.0	3.6
All	5.7	4.2	1.2	0.1	0.0	1.1

Age (years)	Equivalised disposable income (Y) quintile ($'000)					All
	Y<=37	37<Y<=58	58<Y<=81	81<Y<=114	Y>114	
	Eligibility rate[c]					
25–34	61.5	72.5	19.6	0.7	0.0	25.5
35–49	75.0	74.3	32.8	3.5	0.0	37.4
50–65	70.4	69.7	38.6	2.1	0.0	37.3
>65	87.2	94.7	100.0	80.0	0.0	84.7
All	73.9	75.9	30.0	3.3	0.0	37.4

Source: Wood, Stewart and Ong (2010)

Notes:

a. The unit of analysis is adult persons belonging to the income unit that rents the house. The income measure is the equivalised disposable income of the income unit, and age is that of the oldest adult in the income unit. The equivalised disposable income quintiles are computed with respect to the Australian adult population.

b. Mean CRA divided by mean income unit equivalised disposable income, expressed as a percentage.

c. The eligibility rate is the proportion of tenants that receive CRA.

1.4 The main recommendations of the Henry Review

There are three main recommendations on tax and transfer reform that have a *direct* bearing on the private rental housing system:

1. The present array of stamp duties on conveyance is to be abolished and replaced by a broad based land tax, which is levied according to a progressive rate structure applied to individual land values per hectare.
2. A savings income discount (SID) of 40 per cent will apply to the net income (including capital gains) from most non-business assets other than shares.[15]
3. Reforms to the CRA program will index maximum thresholds, refine the formulae governing determination of threshold amounts and redefine eligibility rules.

The first set of recommendations on land tax and stamp duties will be the subject of a second report from this project, and so we defer detailed discussion and analysis.

The SID has potentially important impacts on the supply side of the private rental housing market. Instead of including 100 per cent of net income from property investments in tax returns reporting assessable income, the investor will be required to include 60 per cent. The investor with gross income exceeding deductions will benefit from a lower tax liability because their net incomes from property investments are more lightly taxed than under current provisions. On the other hand, negatively geared investors, whose deductions for outgoings exceed gross rent, will suffer an increase in tax liabilities because they can only deduct 60 per cent of net losses from other sources of income. The tax shelter benefits of negatively geared properties are curbed, though not removed. Greater symmetry to tax arrangements will arise as a result of applying the 60 per cent SID to realised capital gains. At present, 50 per cent of capital gains are taxed; so the tax treatment of capital gains is not as favorable under the proposed Henry Review reforms, and they therefore blunt (but do not eliminate) incentives to 'chase' capital gains. Fears that there will be a 'flight' of investors from rental housing should be tempered by the observation that those

[15] Capital gains on shares will be subject to the 40 per cent SID whilst income from shares in the form of dividends remains undiscounted as long as dividend imputation is retained. To be specific, the SID recommendations apply to non-business related net interest income, net residential rental income, capital gains/losses and interest expenses related to listed shares.

earning positive net rental incomes will find that their after-tax returns are boosted. If supply from this group of investors responds positively, it can help offset an expected fall in supply from negatively geared investors. The overall outcome depends on the share of negatively geared investors, and the response of supply to the change in after-tax economic costs and returns. These are issues that we address in the empirical work below.

The review contains some important proposals for reform of CRA:

- Maximum rent caps to be set at the 25th percentile of the distribution of (national) rents for one-bedroom units and two-bedroom units,[16] and indexed to movements in national rents.
- The minimum rent thresholds (when rent assistance starts) no longer set at a flat rate, but instead formulated as a percentage of income support recipients base rate of payment. A 20 per cent share of the base rate is tentatively suggested (p.612).
- It is proposed that rent assistance be integrated into the income support system for *adults*, with eligibility based on rent payments and the income support means test, not on eligibility for FTB.
- The higher maximum rates of CRA for parents will no longer apply. The per-child family payments made through the family assistance system should be increased with the age of children to account for the higher costs of raising older children (see recommendation 91 of the Henry Review), and sufficient to meet incremental housing costs as families need more living space.

These reforms aim to ensure that CRA delivers assistance that keeps pace with actual housing costs, and is therefore more effective in alleviating HAS for those who eligible to receive CRA. There is also an important change to the delivery of assistance with child related housing costs. It is recommended that family payments are used to assist with the cost of housing associated with children, and in a tenure neutral fashion. In addition, rates of family payment should be increased with the age of children to account for the higher (food, clothing and education) costs of older children.[17]

It turns out that these reforms will have radical impacts on the direct CRA subsidies received by private rental tenants (see Section 4). Our understanding is that parents leasing housing from a private landlord and receiving an ISP will continue to be eligible for CRA, but their assistance will be at the same rates paid to childless singles and couples. Support with the additional housing costs associated with children is to be delivered via family payments, but it is unclear whether they will be indexed in the same way as is proposed for CRA. Parents (in private rental housing) ineligible for an ISP but receiving FTB Part A at more than the base rate are no longer eligible for CRA, but will be entitled to support for the additional housing costs associated with children through their per child family payments. These reforms offer tenure neutral assistance with the incremental housing costs associated with *children*, while fully integrating CRA within income support programs for *adults*, such that an adult paying a rent of $X will receive the same CRA whether or not a parent.[18] There is then a separation of the role of income support to meet the housing costs of needy adults,

[16] In the Review's (p.610) opinion housing of this size should be adequate for childless households. Assistance with the costs of housing, children are dealt with in the fourth dot point below.

[17] Three age bands are proposed: 0–11; 12–15; and 16–18 (see recommendation 91 in Henry et al. 2009).

[18] But note the contrast between tenure neutral treatment of housing costs under family payments, and the non-neutral treatment of adults housing costs under income support.

and that of family payments to help with the additional costs of providing shelter for children.

1.5 Aims, significance and scope of report

Our principal goal is to estimate the reform impacts on the supply decisions of rental investors as well as housing cost burdens, particularly those who are low-income tenants. This research goal has policy relevance. The introduction of the SID has merit, as noted above, but there are fears of a contraction in private rental housing stock, as negatively geared investors may find that curbs on their capacity to deduct losses make retention of rental investments less financially attractive. The 'flight' of negatively geared investors could then result in a sharp contraction in rental supply, rising market rents and a further tightening of rental markets. The Review recognises that in the short run there may well be some adverse impact on market rents and hence housing cost burdens. The proposed reforms to CRA are in part motivated by a desire to protect the position of adults in receipt of an ISP, a group that are particularly exposed to HAS. They also seek to deliver a more horizontally equitable assistance. Since the Henry Review has been viewed as addressing tax reform questions, proposed changes to CRA and family payments have received less attention than they deserve. Our project addresses this important area of reform by offering detailed estimates of consequences for CRA eligibility and assistance payments.

The report begins with a method section that details data sources, addresses measurement issues and describes modelling approaches. This research program is an extension of earlier work reported in Wood and Ong (2008) and Wood and Ong (2010), so we present a summary here and refer interested readers to earlier reports (and publications) for details. There then follows two empirical sections that present our main findings; estimates of how rental investors' after-tax economic costs and supply behaviour are affected by the proposed introduction of SID are discussed in the first of these sections. In addition, predicted changes in market rents and housing cost burdens are analysed under existing CRA arrangements. The second empirical section concentrates on the CRA reforms. We investigate how changes to means test provisions will affect eligibility; it is followed by an examination of how modification of indexation arrangements, and the introduction of formulae determining maximum and minimum rent assistance, will impact on the amounts of assistance received by CRA clients. The final section concludes by drawing out the most salient features of our impact analysis, and listing future directions for research.

2 METHOD

2.1 Data source and overview of modelling approach

The analysis is based on policy simulation exercises conducted using the latest version of AHURI-3M, a comprehensive housing market microsimulation model that contains the key tax and transfer parameters impacting both housing suppliers and consumers, and based on the HILDA Survey. The objective of the model is to analyse the costs of supply rental housing by housing investors, as well as the housing affordability and housing tenure of housing consumers under existing government policy parameters, and to predict those outcomes under alternative policy parameters that emerge as a result of reform measures.

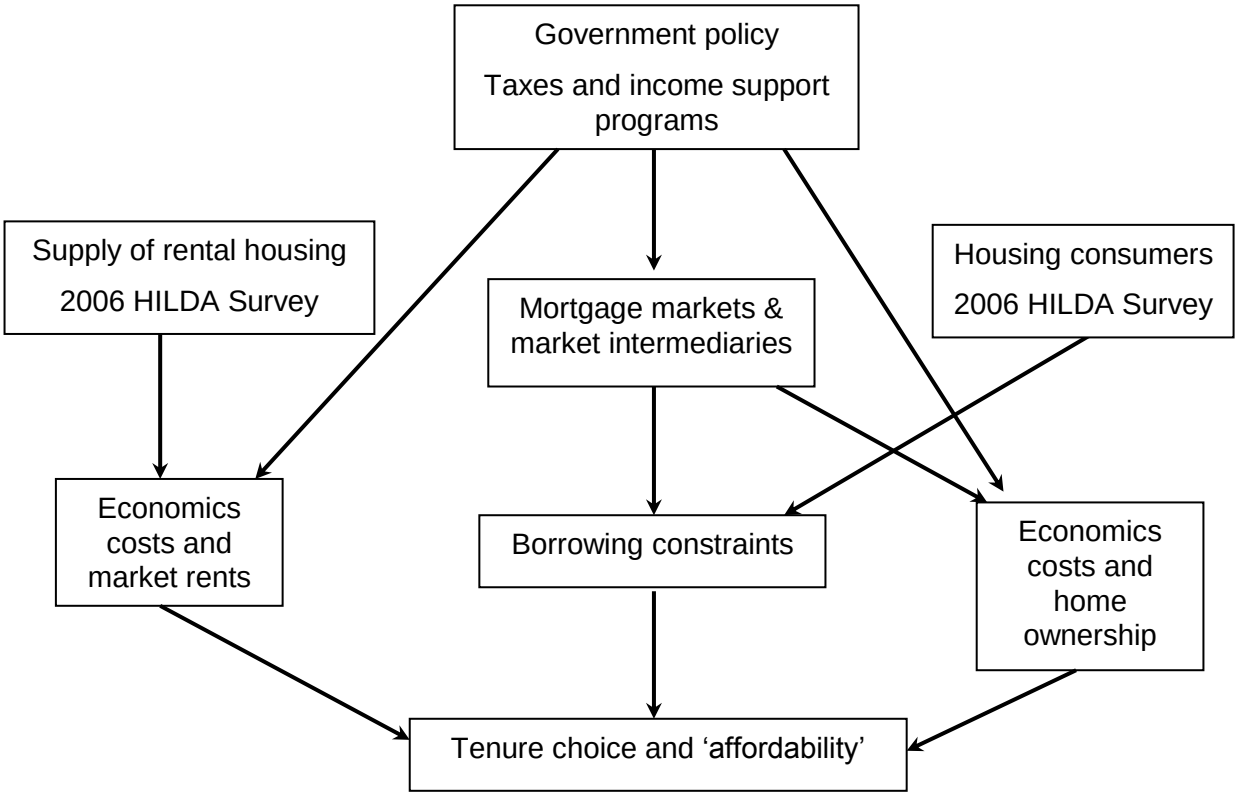
Figure 1 offers a schematic description of the institutional basis and key economic variables of the AHURI-3M microsimulation model. AHURI-3M contains a tax-benefit simulator that imputes income unit tax liabilities, eligibility for and entitlements to the income support programs of housing investors and consumers. All the major taxation provisions and income support programs are modelled by the AHURI-3M simulator.

The upper left-hand side of Figure 1 depicts the supply side of the Australian housing market. The HILDA Survey includes rental investors and the model measures the after-tax economic costs (described in detail in Section 2.3) that investors incur when offering rental housing services from these properties. The economic costs of investors are strongly influenced by state and federal government taxation arrangements. AHURI-3M measures these economic costs taking stamp duties and land taxes into account, as well as the more important capital gains and negative gearing taxation provisions that are federal government responsibilities. In the present context, it is particularly useful for simulating the impacts of the Henry Review's SID recommendations on landlords' after-tax economic costs of supplying rental housing. Increases (reductions) in landlords' after-tax economic costs are assumed to be passed on fully in the form of increases (reductions) in private renters' rental payments.

The upper right-hand side of the Figure 1 depicts the demand side of the Australian housing market, based on key housing consumer groups, that is private renters, public renters and home owners from the HILDA Survey. The model estimates the economic costs of consuming housing, which are also influenced by government taxation and transfer arrangements, including housing assistance. In the present context, a critical government housing assistance instrument is CRA; AHURI-3M models private renters' CRA eligibility, and CRA rent thresholds are used to impute entitlements, so that private renters' housing costs after adjustment for CRA can be calculated.[19] Detailed modelling of the Australian tax-transfer system and its emphasis on housing assistance programs is an important attribute of AHURI-3M. It allows the user to analyse how changes to housing assistance programs (in the present context the Henry Review's proposed CRA reforms) will impact on the housing affordability position of different groups in the Australian population.

[19] AHURI-3M also models the rents that public housing tenants pay. The detailed rules that state housing authorities employ in defining assessable income are used to impute the rents and thus housing costs of public housing tenants. Furthermore, data on outstanding mortgage debt is employed to impute the recurrent housing cost outlays of home purchasers.

Figure 1: AHURI-3M model



The HILDA Survey is a nationally representative survey containing a comprehensive range of housing, labour, income and other socio-demographic variables. It began in 2001 and contained 19 914 individuals. It has been repeated every year since 2001 and has been widely used as a data source for the analysis of social and public policy programs in Australia. In 2010, 41 academic journal articles were published using this dataset (see MIAESR 2011).

A key attribute of the HILDA is the longitudinal character of the survey, which permits researchers to track a large sample of Australians over a period that now extends from 2001 to 2009. In the present context, it is particularly useful as it allows a rare opportunity to investigate the decisions of rental investors who have made, retained or realized property investments over the period 2002–06. In the years (waves) 2002 and 2006, wealth modules were added to the survey permitting researchers to identify landlords and the asset and debt value of their investment property portfolios. Moreover, other asset and debt information from a wide range of sources are recorded in HILDA for the years 2002 and 2006, including assets accumulated in businesses, superannuation, trusts, life insurance, and debt associated with credit cards, businesses, Higher Education Contributions Scheme (HECS) etc. These data allow us to measure the down payment constraint faced by renters seeking to enter the homeownership market, and hence offer a robust analysis of how borrowing constraints might impede transitions into home ownership, and the characteristics of households are most likely to be affected. Hence, these two waves contain comprehensive data on both housing investors and consumers, which enable us to draw together both the supply and demand components of the housing system using one data set.

Currently, the latest version of AHURI-3M is operationalised by using HILDA wave 6,[20] because it is the most recent HILDA Survey containing the wealth module described above permitting researchers to identify landlords, the asset value of their investment property portfolio and the gross rental income received from their property portfolio. With the assistance of a tax-benefit simulator at the heart of AHURI-3M, we are able to provide detailed estimates of the after-tax economic costs incurred by investors. These estimates encompass land taxes and property taxes, maintenance costs, transaction costs and interest repayments, while taking capital gains into account; importantly, these components of economic cost take federal government tax arrangements into account. This is a critical step in the analyses, because our modeling suggests that after-tax economic costs are an important influence on the supply decisions of investors (see Wood & Ong 2010). On the demand side of the market care is taken to accurately measure the housing transfers received by renters (CRA and public housing subsidy) using AHURI-3M. We are then able to measure the impact of Henry Review recommendations on both the supply and demand sides of the housing market. We invoke market clearing conditions to predict long run market rent outcomes, and hence the housing affordability circumstances of Australian households.[21]

2.2 Identifying landlords and rental properties

In the 2006 HILDA Survey, each individual is asked whether she/he owns properties other than the property she/he is residing in. If the answer is yes, and the individual reports that she/he receives rental income, the individual is assigned landlord status. However, landlords can be further classified into residential and non-residential landlords, the latter being owners of say commercial properties or farms etc. that are leased to tenants (e.g. sole proprietor retailers and tenant farmers). It is important to distinguish between the two types of landlords, because our research question focuses on the supply of residential rental property. As the SID reform applies to residential rental income (rather than all forms of rental income such as commercial rental income), we have restricted our sample to landlords owning residential properties only. Fortunately, HILDA asks respondents to describe property type; our sample of landlords is designed to include those receiving rental income and owning either.

- a second home/holiday house that is also rented out, or
- another house or unit, including investment property.

Because those assigned landlord status receive rental income, we exclude those who for one reason or another own a second home, but never use that home to generate an income. There are some caveats; some individuals may collect notional rent payments from children or relatives who are staying in their second home, or may occasionally rent out their second home or holiday house to others rather than

[20] The next wealth module will be in available in the 2010 HILDA Survey (wave 10), which will be released in early 2012, permitting a timely opportunity to update AHURI-3M such that longitudinal analysis of investor behaviour can be conducted over the period spanning 2002, 2006 and 2010, covering periods of strong house price growth in the early part of last decade followed by a downturn in housing market conditions in the latter part of the decade. There is another important information gain from the much longer time span; we know that some landlords churn in and out of rental property investments and we suspect a motivation is refinancing to more fully exploit negative gearing tax shelter benefits. The longer time frame permits a more thorough investigation of these phenomenon and their significance.

[21] In the long run it is assumed that the supply of housing is perfectly elastic. A reform changing after-tax economic costs will then result in their full pass through into market rents. For details see Wood, Watson and Flatau (2006), Wood, Ong and Harman (2008) and Wood and Ong (2008).

throughout the entire year. These individuals are assigned landlord status in our analysis, because we do not have sufficient information from the HILDA Survey to distinguish between those who collect notional rent payments from family members, or who rent out their homes for part of the year only rather than the entire year.

A final sample of 612 property 'portfolios' is available for measurement of after-tax economic costs and internal rates of return; approximately 70 per cent of these portfolios contain only one rental property. The difference in after-tax economic costs under existing tax arrangements and SID arrangements could be modelled using the property portfolio as the unit of analysis. However, in modelling rental investor behaviour, we utilise the individual investor as the unit of analysis in order to factor the socio-demographic characteristics of rental investors into model specifications.

Net rental income is gross rental income less expenses that incurred in renting out the property, such as operating costs and interest repayments. Net rental income is calculated only for those who own and receive rent from residential properties, as outlined earlier in this section.

From the HILDA Survey, we estimate that 33 per cent of residential landlords had a negative net income (rental losses) in 2006. This is substantially lower than figures that reported by the Australian Taxation Office (ATO) who report that 67.9 per cent of individuals in receipt of rental income in the 2006–07 financial year declared rental losses. The ABS Rental Investors Survey reports that 35.9 per cent of residential property owners made a rental loss in the 1995–96 financial year. This proportion is higher at 50 per cent in a more recent ABS survey, the 2005–06 Survey of Income and Housing (SIH).

One reason for the large discrepancy is that HILDA and ABS samples are based on properties (that can be owned by more than one person), whilst the ATO sample is from personal income tax returns that submitted by individuals in receipt of rental income. Hence, the ATO sample contains couples that would be double counted where the property is jointly owned. Estimates from the 2006 HILDA Survey indicates that 36 per cent of partnered landlords, that is married or in a de facto relationship, are negatively geared, compared to 26 per cent of single landlords. It is also important to note that partnered persons are over-represented among landlords (82% of landlords are partnered). Another reason is that the ATO sample includes only taxpayers and so elderly, low-income landlords who typically do not pay tax and cannot be negatively geared are omitted from the sample. These differences suggest that the ATO figures will overestimate the *proportion of properties* that are negatively geared. But there is another potentially important difference that might impact in the opposite direction. The ATO sample includes some property investors who receive income from non-residential property. Individuals that own *and lease* a commercial property or farm, for example, will be included in the ATO sample. However, our investigations using HILDA suggest that individual investors in commercial property and farms are less likely to be negatively geared than residential landlords.[22] Therefore, we are unable to offer an entirely satisfactory explanation for the different findings on extent of negative gearing. It turns out that the proportion of negatively geared residential landlords is an important determinant of housing supply responses to the SID recommendation, so this gap in our knowledge is important.

[22] Ten per cent of landlords owning farms, commercial properties or lease out their rental properties as part of a business are negatively geared in the 2006 HILDA Survey.

2.3 The user cost of rental investors[23]

As noted earlier in this section, a critically important measure in this study is *after-tax economic costs (user cost)*. In the present context they represent the sum of the investor's recurrent cost outlays on maintenance, interest payments, land taxes, property taxes and agents' fees, the return sacrificed on equity, transactions costs, net of the capital appreciation accrued, and after taking into account the tax treatment of net rental income, capital gains, land values and transactions in real estate. An important aspect of economic costs that distinguish it from the accountant's notion of costs is the definition of financing costs. The latter will define financing costs to include interest payments on debt secured against the asset. But the economic cost measure will also add the return sacrificed on the investor's equity stake in the rental property.[24] The economic cost measure is commonly referred to as the *user cost* of capital. Conventional investment appraisal techniques that are used to evaluate the present value of a project's cash flows can be used to derive a measure of user cost. The present value of the cash flows from a rental property investment can be defined as:

> Net present value = realised capital gains-equity contribution + after-tax net rents - capital gains tax liabilities

The financial sums on the right-hand side are discounted at the after-tax interest rate to translate future cash flows into present value equivalents. Competition between investors will, in the long run and given efficient markets, force gross rental yields to levels such that the present value of cash flows is zero. Wood (2003) shows that this gross rental yield is equal to the sum of the following cost components (defined on a per dollar of capital value basis) that add up to user cost:

> User cost = annual financing costs + annual operating costs - annual capital gains + amortised[25] value (of capital gains tax liability + transaction costs)

These components include financing costs net of after-tax capital gains and transaction costs. The financing costs (see above) include after-tax interest on debt and the after-tax return sacrificed on the investor's equity stake in the rental property investment. The operating costs of providing accommodation include meeting rates, repairs, property management fees and land taxes. Appendix 2 presents a formal definition of the user cost expression in algebraic form.

If landlords' user costs rise above gross rental yields, there will be *economic* losses. Some landlords will respond to these circumstances by cashing in their property investment in favour of alternative investments. As supply shrinks, gross rental yields will increase and converge on user cost. The reverse process can be anticipated when user cost is less than gross rental yields—supply increases, gross rental yields fall and converge on user cost. This is the process of competition referred to above.

It provides us with a market clearing solution to measurement of tax reform impacts on market rental yields (rates). Changes to tax provisions, which raise (lower) investors' user costs, will cause supply to contract and gross rental yields to rise (fall)

[23] We present background information on the characteristics of rental investors and private rental tenants in Appendix 1.

[24] The investors can sell up and invest the equity realised in a next best alternative investment, for example 10-year treasury bonds, and interest payments from these bonds will accrue. If investors hold on to their rental investments this return is sacrificed. Once again this is measured on an after-tax basis.

[25] Capital gains tax and transaction costs are lump sum cash amounts rather than recurrent cash flows like operating costs. To find an annual equivalent figure they are amortised, that is spread over the investor's holding period.

by an amount that just covers the increase in user costs. Our approach to measurement of impacts is based on this model of market adjustment. Considering the SID, our measurement approach involves estimation of the increase (or reduction) in tax liabilities that investors will experience over their holding period, assuming all other factors affecting user cost (interest rates, inflation etc.) are constant. The change in tax liabilities are converted into a present value, amortised over the holding period and, when expressed on a per dollar of capital value basis, give the change in investors' user costs. We use the average percentage change in investors user cost as our estimate of the long run change in market rental rates.

Therefore, the assumption we employ is that landlords pass on any changes in after-tax economic costs into rents. This assumption received some support from econometric studies modelling the determinants of the private market rents (see Blackley & Follain 1996) and the present value framework underpinning the user cost derivation has been used in studies, such as Clarke (1995). Blackley and Follain (1996) estimated that approximately half of any changes in user cost are passed along as higher rents, though this adjustment process can take a long time. Wood and Watson (2001) is a more recent empirical study, which assumes an infinitely elastic supply of rental housing such that any changes in user cost are passed fully on to tenants. Hence, a fall in after-tax economic cost of, say, 5 per cent, results in a 5 per cent fall in market rents in the long-run. For example, assuming a tenant pays $100 in rent before the reform, a 5 per cent fall in the market rents will precipitate a drop in rent from $100 to $95. As explained in detail earlier, CRA is a housing assistance entitlement; any change in the rent paid by eligible tenants will also lead to a change in CRA entitlements. A fall in rent will generally reduce a tenant's CRA entitlement; and if a tenant's rent falls below the CRA minimum rent threshold applicable to his/her income unit type, then the tenant loses eligibility for CRA. However, a tenant paying rent above the CRA maximum threshold is unaffected provided he/she remains above the maximum threshold despite the reform.

Using AHURI-3M, we are able to simulate changes in the market rental rate on tenants' rents as well as their CRA entitlement. The consequences of the SID reform for housing affordability can then be estimated by measuring tenants' housing affordability positions before and after the reform, and assuming the market adjustment process described above. The key magnitudes used to simulate the reform's impacts include:

- Net rent (gross rent less CRA).
- Net HAR, which is net rent expressed as a percentage of income unit disposable income.
- Incidence of HAS, defined as the proportion of tenants who are paying rents above 30 per cent of the disposable income and in the bottom 40 per cent of the income distribution.

Table 4 lists some key descriptive statistics concerning investor user cost given key parameter assumptions that are listed in Table 5. The key figure is the average user cost of 8 per cent, the hurdle rate that gross rental yields need to reach in order to generate a return comparable with alternative investments. This is high by comparison to actual gross rental yields at the time (4.7%); it perhaps reflects a conservative assumption about expected appreciation in house prices (3.5%). At a somewhat higher rate (4.5%) that would produce real gains of around 2 per cent per annum, typical user costs decline to 6.6 per cent, but this remains higher than gross rental yields. At prevailing 2006 market interest rates (8%) financing and operating costs are the most important component—contributing over 10 percentage points to the

average investor's user costs. After deducting depreciation, capital gains offset 3.5 percentage points, helping to cap investors after-tax economic cost. Capital gains tax liability and transaction costs amortised over the assumed 10-year holding period adds another one percentage point, resulting in a user cost value of 8 per cent.

Table 4: Components of after-tax economic cost under 2006 tax arrangements, per cent of property value

Component of user cost	Mean	Median
Annual financing and operating costs	10.3	10.3
Annual capital gains	3.5	3.4
Amortised capital gains tax liability	0.6	0.6
Amortised transaction costs	0.5	0.5
User cost	8.0	8.0

Source: Authors' own calculations using the 2006 HILDA survey

Other key parameter values listed in Table 5 include an assumption that investors typically hold on to their property investments for 10 years. This assumption is important; longer holding periods allow investors to amortise (spread) fixed costs like transaction costs, reducing typical user costs to 7.7 per cent at 15 years and 7.6 per cent at 20 years. On the other hand, there are quite sharp increases at shorter holding periods—average user cost reaches 10 per cent if the investors realizes after only two years. This has a non-trivial impact—the average user cost increases by 25 per cent when holding periods decline from 10 to two years. At the average property value of $500 000 held by rental investors in the 2006 sample, this implies an increase of $10 000 per annum—from $40 000 per annum to $50 000 per annum. Land tax is a peripheral cost factor for most landlords because they invest in only one property, but can be an important outlay for multi-property landlords. Finally, we note that upfront costs, such as stamp duty and mortgage insurance premium, are a sunk cost as far existing landlords are concerned, that is, they cannot recover these costs by selling their property investment. Therefore, they are irrelevant to retention of property investments and are assumed to be zero.

Table 5: Components of after-tax economic cost under 2006 tax arrangements

User cost parameters	Parameter value
Holding period	10 years
Depreciation rate	1.4%
Interest rate	7.95% (banks' home loan rate in 2006–07)
House price appreciation rate	3.5%
Inflation rate	2.5%
Agency rate (includes property management and letting fees)	11%
Brokerage fees	3.5%
Building insurance	0.2% of building value
Maintenance cost	Mean expenditure by property value/state segment, obtained from the 1997 Rental Investors Survey
Property taxes	Means of property taxes as a percent of property value by location from the 2002–03 Survey of Income and Housing Costs
Land taxes	Based on state/territory land tax schedule and the

	assumption that assessed land value is 57 per cent (39%) of the market value of properties in metro (non-metro) regions based on the Victorian Value-General's valuations database[a]
Stamp duties and mortgage insurance premiums	Zero (upfront costs)

Note: a. Due to data limitations, the percentages derived from the Victorian data has been applied to other states and territories.

Table 6 lists key measures of the housing cost burden and affordability positions of private renters as calculated from a sample of private renters (persons) who were selected from the 2006 HILDA Survey. The average private renter in Australia pays a mean (median) rent of $8679 ($7824) per year. Using the AHURI-3M microsimulation model, we estimate that on average across all private renters, CRA reduces rent payments by around 10 per cent. However, only around one-third of private renters are eligible for CRA, so the median private renter's CRA entitlement is zero. HARs, that is, net rent as a proportion of disposable income, indicate that typically private renters spend around one-fifth to one-quarter of their incomes on rent payments net of CRA.

Table 6: Housing cost and affordability positions of private renters, 2006 tax arrangements

Housing cost and affordability measures	Mean	Median
Mean annual gross rent $	8,679	7,824
Mean annual CRA $, all private renters	820	0
Percentage eligible for CRA	34.9	
Net annual rent $	7,859	6,516
HAR %	23.1	19.4
Percentage in HAS	14.8	

Source: Authors' own calculations using the 2006 HILDA Survey

2.4 Modelling rental investor behaviour

Our primary supply side research question addresses the impact of SID reform on decisions to supply housing. We invoke an econometric modeling approach that estimates the role of different factors shaping rental investor behaviour. Here we exploit the panel nature of the HILDA data to model landlords' propensity to retain their rental investments. We take a sample of landlords (persons) in 2002 and model their propensity to retain rental investments in 2006 (wave 6) using the *market conditions and portfolio* probit model specified in Wood and Ong (2010). The dependent variable is equal to one if a wave 2 landlord retains his /her investment and zero if the landlord has realised his/her investment by wave 6. An important caveat is that we draw our conclusions from a sample of individuals who already hold rental investments, and therefore ignore any potential impacts of SID on the decision to become a landlord.[26] However, since the same considerations will have a bearing on these decisions to retain or enter, we can expect the direction and strength of reform impacts to be similar across existing and new supplies of rental housing. Those

[26] The decision to become a landlord was modelled by Wood and Ong (2010) using binary probit and sub-tenure choice models. However, as the sample is highly unbalanced with only around one-tenth of the sample being landlords, the model over predicts the probability of not being an investor. Hence, these two models are not used for policy impact analyses.

becoming new landlords in 2006 account for 25 per cent of all landlords. Though the supply decisions of existing landlords are more important, an important future direction for research is an analysis of the factors driving the decision to invest in rental property for the first time (see Section 5 for more detail on a proposed research approach).

The market conditions and portfolio model in Wood and Ong (2010) controls for standard personal characteristics of the landlords that may affect the decision to realise rental investments, such as age, retirement status and labour market history (for a detailed discussion on the motives prompting rental investment in the existing literature, refer to Wood & Ong 2010, Section 1.2) . Key financial variables that enter the model include user cost, gross rental yield, negative gearing status, as well as levels of superannuation and non-property debt. Attitudinal variables are also included to test hypotheses put forth in studies such as Shroder (2001) and Seelig et al. (2009). These variables include possession of life insurance, willingness to take financial risks, and savings behavior.

The model coefficients from the Wood and Ong (2010) market conditions and portfolio model are used to predict the probability that landlords retain their rental investments under current tax arrangements. The mean probability of retaining rental investments by landlords is predicted to be 47 per cent by the model. This is similar to the *actual* proportion of all landlords retaining rental investments (49%) as calculated from the data. The nonlinear nature of the probit model results in the actual probability deviating from the predicted probability, as opposed to linear models where the actual and predicted probabilities would be equal (see Fairlie 2003).[27] We rely on the probability predicted from the model coefficients, because these same coefficients are then employed to predict the behaviour of landlords under SID reforms by replacing landlords' after-tax economic costs before the reform with those estimated once the 40 per cent SID has been applied to net rental income and capital gains/losses, while holding the coefficients and all other variables in the model constant. The difference between the predicted probability under the reform and the predicted probability under the current tax arrangements is then attributed to the impact of SID reform on rental investor behaviour.

Critically, the user cost model coefficient indicates that investors with high after-tax economic costs (as measured by user cost) are less likely to survive in the rental market. A 1 percentage point increase in user cost has a marginal effect (reduction in probability of retaining rental investments) of 10.3 percentage points according to the model. Hence, if implementation of SID reforms raises user cost, we can expect SID reforms to prompt a shift in preferences of investors away from rental housing.

In the 2002 HILDA data, property type is not recorded so we utilize the entire sample of landlords from 2002 as we are unable to identify those who are receiving residential rental income, and therefore those to whom the SID reforms would apply. Estimates from the 2006 data indicate 71 per cent of all landlords fall under the definition of landlords receiving residential rental income, that is, the majority of landlords in Australia receive residential rental income.

[27] Consider a nonlinear model where the dependent variable *Y* is a function of a vector of variables *X*, that is, *Y* = *F*(*X*). In linear models, $\overline{Y}$, the average value of the dependent variable would necessarily equal $F(\overline{X}\hat{\beta})$ where $\overline{X}$ represents the average values of the independent variables and $\hat{\beta}$ represents the coefficient estimates. However, the nonlinear nature of probit models results in $\overline{Y} \neq F(\overline{X}\hat{\beta})$.

3 FINDINGS: THE SAVINGS INCOME DISCOUNT AND INVESTMENT IN RESIDENTIAL HOUSING

3.1 Introduction

We begin our empirical analysis by measuring the impact of SID reforms on investors' after-tax economic costs (user costs of capital). As explained earlier in this report, we place considerable importance on this exercise because these after-tax economic costs must be covered by rental income if the investor is to achieve an economic return. While financial considerations are one of a number of motives prompting rental investments (Seelig et al. 2009), our econometric models offer convincing evidence that is more important (Wood & Ong 2010). If policy changes impact investors' after-tax economic costs by (say) raising them, some if not most will seek higher rents to cover the increase, the supply of rental housing will shrink and rates of HAS will rise. Below we report estimates of the impact of tax reform on rents and predict supply responses; a particular interest is whether our econometric models predict a 'flight of investors' threatened by caps on tax shelter benefits, and the more heavily taxed capital gains that are consequences of SID. We do not review the literature that has shaped our thinking on modelling approaches, or discuss details surrounding model specification. Interested readers are referred to our earlier AHURI report (see Wood & Ong 2010) where these topics are dealt with at length.

3.2 The impact on investor after-tax economic costs (user costs)

In this section we pose four key research questions about the Review's SID recommendations and their impacts:

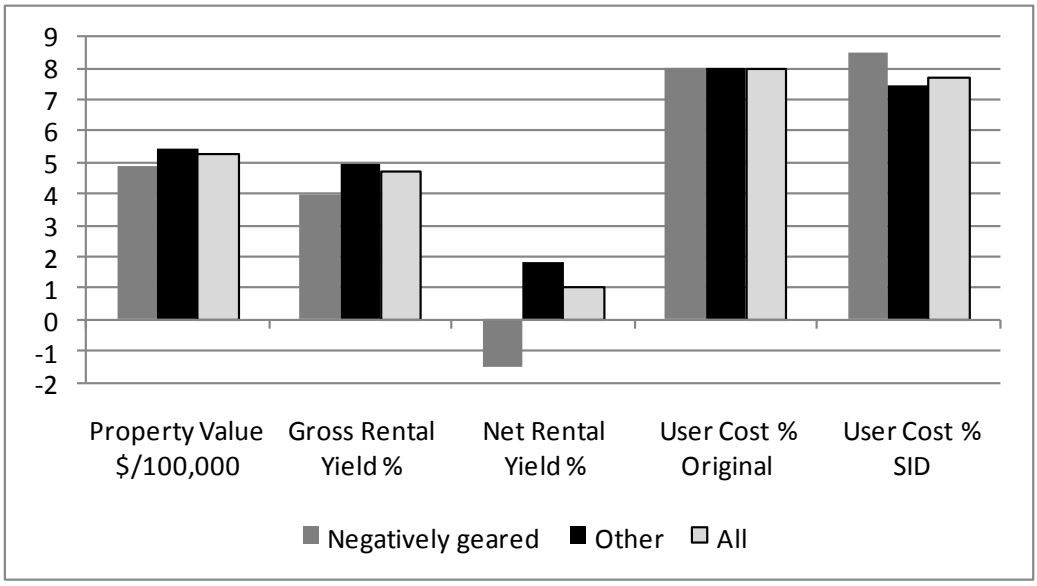
1. Do the Review recommendations increase or lower user costs and hence returns?
2. How do they affect negatively geared investors as compared to other investors with positive net rental incomes?
3. Are these findings sensitive to changes in key parameters such as holding period and house price appreciation?
4. Does the higher tax burden on capital gains drive the findings, or is it the introduction of a discount with respect to net rental income?

We estimate that the typical user cost in our sample of properties will be more or less steady in response to the introduction of a SID; the mean user cost is projected to fall by just 20 *basis points*—from 8.0 to 7.8 per cent. There is an important and perhaps unexpected point to be made about this first finding; a measure curbing the tax shelter benefits of negatively geared investors will in aggregate reduce the average user costs of investors, albeit marginally. This apparent puzzle is explained by the presence of investors that actually receive positive net rental income. Indeed, they are majority in this *sample* of investors. Though the sample average (and median) is hardly changed by SID reforms, it masks contrasting patterns as is evident when we compare negatively geared and other investors in Figure 2. Positive net rents accrue to other investors and so SID results in a lower tax burden on rents because 60 per cent of their rent income is assessable, rather than 100 per cent under current arrangements. Despite more heavily taxed capital gains, the hurdle rate that rent yields must reach if these investors are to achieve an economic return (cover their user costs) falls by 50 *basis points* to 7.5 per cent.

On the other hand, negatively geared investors are adversely affected by user costs rising 50 *basis points* from 8.0 to 8.5 per cent. An average negative net rent yield of 1.5 per cent works to the disadvantage of these landlords, because only 60 per cent of these losses can be deducted from other sources of assessable income, rather than the 100 per cent under current arrangements; adding to the adverse impacts is the increasing tax burden on capital gains under the proposed Henry reforms. It is noticeable that under current tax arrangements the pattern of gross rental yields reflects differential user costs; some of the tax shelter benefits appear to be passed on into lower gross rental yields on negatively geared properties (see Figure 2). With curbs on these tax shelter benefits we might expect a change in this pattern, a question we take up later in this section.

Further confirmation of these impacts is revealed by estimates of *internal rates of return* under current and proposed tax provisions (see Figure 3). An investor's internal rate of return (IRR) is a measure of the profit yield a project generates over its lifetime.[28] Negatively geared investors average (median) IRR slumps form 5.3 per cent (4.4%) to 4.9 per cent (4.2%); other investors average (median) IRRs are boosted from 6.9 per cent (5.4%) to 7.3 per cent (5.6%). Because negatively geared investors are a minority in this sample, there is a slight increase in average IRRs when calculated across all properties.[29]

Figure 2: Mean user cost, property value and rental yields under current and SID tax arrangements, 2006, by landlord type



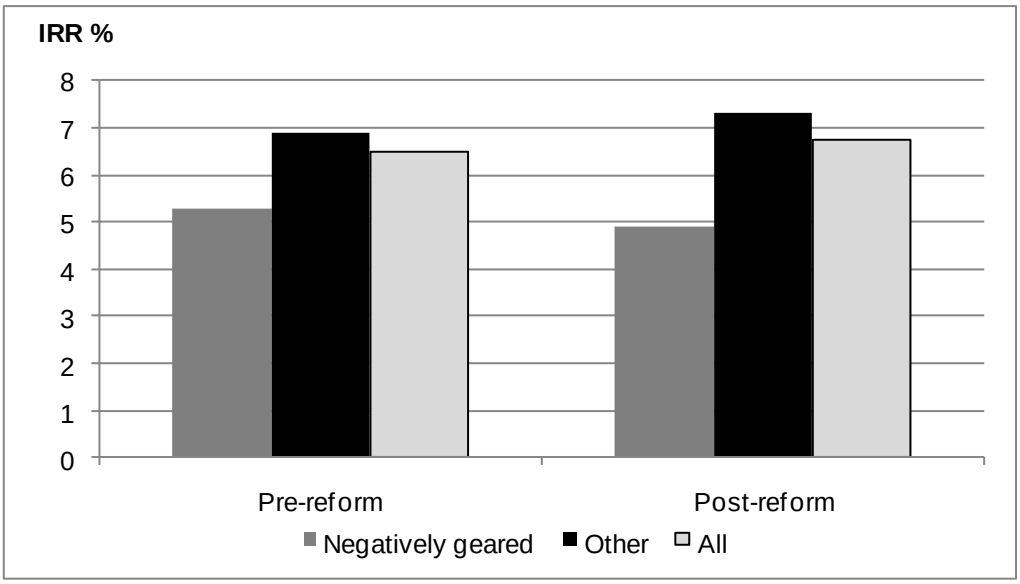
Source: Authors' own calculations using 2006 HILDA survey

N = 151 negatively geared and 461 other landlord income units.

[28] It is closely related to the user cost concept, because it is the discount rate that guarantees a net present value equal to zero (see Levy, H & Sarnat, M. 1994, Chapter 4). As explained in Section 2, the project's user cost is the gross rental yield that guarantees a net present value equal to zero.

[29] We report user costs estimates only in the remainder of this section. However, all empirical exercises have been repeated using the IRR measures and confirm the conclusions reached using the user cost measure. Results are available from the authors on request. Figure 3 shows that negatively geared investors have lower IRRs despite tax shelter benefits. This is because negatively geared investors hold properties in lower value segments (mean value $489 000 versus $542 000 for other investors); since we assume constant rates of house price appreciation, and other investors borrow less the average equity accumulated by other investors over the 10-year holding period is (at $636 000) much larger than those accruing to negatively geared investors ($414 000). Had negatively geared investors acquired properties of the same value they would achieve higher IRRs than other investors.

Figure 3: Mean IRR estimates under current and SID tax arrangements, by landlord type, 2006, per cent



Source: Authors' own calculations using 2006 HILDA survey

N = 142 negatively geared and 560 other landlord income units.

There are of course key parameter assumptions underpinning these findings. However sensitivity analysis conducted with respect to holding periods and rates of house price inflation confirm our findings. Table 7 illustrates with respect to holding periods ranging from two years to 20 years. Note that amortization of fixed costs results in declining user cost—transaction costs, for example, are much less of a cost burden when spread over 20 years than when spread across only two years of ownership. This is an important property of the user costs measure. Under current arrangements average user cost falls by over 200 *basis points* from 10 to 7.6 per cent as an investor's holding period lengthens from two to 20 years. It is equally important the reform impacts are adverse for negatively geared investors at all holding periods up to and including 20 years, and monotonically positive for other investors. For other investors, the impacts of recommended reforms are greater the longer the holding period, as the effect of SID on net rent flows increasingly outweigh the impact on after tax capital gains.

Table 7: Mean user cost estimates under current and SID tax arrangements, by landlord type and holding period, 2006, per cent

Landlord type	Holding period				
	2 years	5 years	10 years	15 years	20 years
Negatively geared					
Current	10.0	8.5	8.0	7.7	7.6
SID	10.5	9.1	8.5	8.3	8.1
Other					
Current	10.0	8.5	8.0	7.8	7.6
SID	9.6	8.1	7.5	7.2	6.9
All					
Current	10.0	8.5	8.0	7.7	7.6
SID	9.9	8.4	7.7	7.5	7.2

Source: Authors' own calculations using 2006 HILDA survey

Conclusions about the overall impact of reforms are also unaffected by different assumptions about house price appreciation. Our base estimates above assume consumer price inflation of 2.5 per cent and a rate of house price appreciation equal to 3.5 per cent, equivalent to real gains of 1 per cent per annum. Higher real gains lower user cost because investors accumulate more equity that is released on realizing the investment. This capital growth is also lightly taxed under current arrangements, so we estimate that user cost with real gains of 2 per cent instead of 1 per cent would (all else equal) lower average user cost from 8.0 to 6.6 per cent when calculated with respect to all the investors in our sample. But whether or not real gains are 1 or 2 per cent user cost fall under the reforms, by 30 *basis points* (from 8.0% to 7.7%) when real gains are 1 per cent, and 20 *basis points* (from 6.6% to 6.4%) when real gains are 2 per cent. But user costs are 'shaved' less when there are higher real gains, because the more symmetric tax treatment of net rental income and capital gains has, the more important effect as capital growth accelerates.

It is important to an understanding of the proposed Henry tax arrangements to appreciate that there will be offsetting impacts for those investors earning positive rental income from their property investments. On the one hand, only 60 per cent of net rental income is taxed under the SID, lowering income tax burdens (because 100% of net rental income is currently taxed); on the other hand, 50 per cent of capital gains are currently taxed, but 60 per cent are taxed under the Henry reforms, a measure that will increase tax burdens. At an assumed 10-year holding period the effects of SID on net rental income outweigh the adverse impacts from more heavily taxed capital gains. Table 8 reports the findings when we decompose the recommended SID reform into two components. If the SID were applied to net rental income, leaving the tax treatment of capital gains unchanged, it would shave 42 *basis points* off average user cost (see Table 8, column 6). But if SID is applied to capital gains only, average user costs climb, though by only 14 *basis points*. For negatively geared investors the changes are a 'double whammy'; if only net rental income is subject to SID, negatively geared investors' average user costs rise by 34 *basis points* (see Table 8, column 2). There is a more modest increase of 14 *basis points* when only capital gains are affected by the recommended SID change. Regardless of negative gearing status the changed tax treatment of net rental income is a more important influence.

Table 8: User cost estimates under current, SID and decomposed SID tax arrangements, by landlord type, 2006, per cent

	Negatively geared		Other		All	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**
Current user cost	8.00	7.96	7.99	7.96	7.99	7.96
SID applied to both capital gains tax and investment income tax						
SID user cost	8.49	8.40	7.46	7.62	7.71	7.84
Total percentage point change in user cost	0.49	0.44	-0.53	-0.34	-0.28	-0.12
SID applied to capital gains tax only						
SID user cost	8.14	8.11	8.13	8.10	8.13	8.10
Percentage point change in user cost	0.14	0.16	0.13	0.13	0.14	0.14
SID applied to net rental income tax only						
SID user cost	8.34	8.26	7.32	7.49	7.57	7.70
Percentage point change in user cost	0.34	0.31	-0.67	-0.48	-0.42	-0.26

Source: Authors' own calculations using the 2006 HILDA survey

3.3 The impact on supply decisions

We have estimated a probit model of whether 2002 investors survive or exit the market by 2006 (where the dependent variable is equal to one if a wave 2 landlord retains his/her investment, and zero if the landlord has realized his/her investment by wave 6). The predicted values from the probit model can be transformed to obtain estimated probabilities that investment properties in 2002 will remain as investment properties in 2006. The two choices that an individual is faced with here is the decision to retain or realise one's rental investment, and we model this decision as a function of landlords' observed personal, attitudinal and financial characteristics. The variables capturing these characteristics and included in model specifications are listed in Table 9 (Wood & Ong 2010, Table 2.2). When used to simulate investor decisions, the model is able to successfully predict 61 per cent of outcomes. The user cost variable turns out to be an influential variable; a one standard deviation increase in user cost (0.461 percentage points) lowers the probability of survival in 2006 by 4.4 percentage points (see page 38 of the Wood & Ong 2010 report).

Table 9: List of variables/motivators prompting rental investment and duration of rental investment

Personal characteristics and financial drivers	Variable[a]	Continuous or dummy
Socio-demographic		
Marital status	Whether a person is continuously married, de facto, separated, divorced, widowed, single never married or remarried. Separated, divorced and widowed persons are grouped together due to small sample numbers in each group.	Dummy
Number of children	Number of children (resident and non-resident) by the following age bands: 0–4 years, 5–14 years, 15–24 years, 25+ years	Continuous
Human capital		
Education	Bachelor degree or higher, other post-school qualifications and no post-school qualifications	Dummy
Labour market history[b]	Proportion of time in paid work since leaving full-time education Proportion of time unemployed since leaving full-time education	Continuous
Retirement-related factors		
Age	In years	Continuous
Retirement status	Whether a person has already retired	Dummy
Attitude towards risk		
Life insurance	Whether own life insurance	Dummy
Financial risk-taking	Whether unwilling to take financial risks	Dummy
Savings time horizon	Whether savings time horizon is less than one year	Dummy
Saving habit	Whether save regularly each month	Dummy
Financial drivers		
Gross wealth	2002 level of gross wealth/$10 000. The 2002 level is used to address endogeneity problems. In the HILDA Survey, wealth is typically reported on a household basis. Hence, household wealth is apportioned among the income units within the household as follows: → Wealth stored in the primary home is assigned to the income unit owning the home. → Other property wealth is shared equally among non-dependent adults in the household owning	Continuous

Personal characteristics and financial drivers	Variable[a]	Continuous or dummy
	property other than the primary home. For a couple income unit, the other property wealth of the two income unit members are summed to derive income unit other property wealth. → Non-property wealth is shared equally among non-dependent adults in the household. For a couple income unit, the non-property wealth of the two income unit members are summed to derive income unit non-property wealth.	
Superannuation wealth	2002 level of superannuation wealth/$10 000. The 2002 level is used to address endogeneity problems.	Continuous
Non-property secured debt	2002 level of debt not secured by property/$10 000. The 2002 level is used to address endogeneity problems. Debt is assigned to income units using the same rules as wealth.	Continuous
Negatively geared status	Whether negatively geared in all waves	Dummy
User cost	Landlord's after-tax economic costs as a per cent of property value, taking into account after-tax interest on debt, the after-tax return sacrificed on the investor's equity stake in the rental property investment, after-tax capital gains, operating costs of providing accommodation, such as meeting rates and utility charges, repairs, property management fees and land taxes, and transaction costs. This is computed using the AHURI-3M housing market microsimulation model (see Wood & Ong 2008 for details). In the survival models, we estimate the impact of landlords' user cost in 2002 on the probability of retaining their rental investment in 2006. In the propensity models, we estimate the impact of user cost in 2006 on the propensity to invest in rental housing in the same year, assuming that operating and stamp duties are zero as these cannot be observed for non-investors.	Continuous
Expectation of capital gains	Gross rental yield in per cent (landlords are prepared to accept lower gross rental yield if they are expecting higher capital gains)	Continuous

Source: Wood and Ong 2010

Notes:

a. Other variables that were experimented with but proved to be highly insignificant include: the need to diversity the wealth portfolio using the Herfindal index (the sum of the squared values of each asset's share in the total wealth portfolio), whether there is an incentive to realise rental investments and put proceeds into an exempt asset as one approaches retirement by estimating whether the Age Pension test would be binding if a person aged 55 or over but under 65 years held onto his/her rental investment, recent capital gain, measured by the lagged change in rental property value, and ethnicity.

b. For most of the sample, these variables sum to less than one because of time spent not in the labour force. In the survival (propensity) model, 63 per cent (76%) of the sample spent time not in the labour force since leaving full-time education.

Tables 10 and 11 compare the predicted outcomes for negatively geared and other investors.[30] Under current tax arrangements we expect a typical investor in 2002 to have a 47 per cent probability of retaining a rental property investment in 2006. But negatively geared investors are less likely to hang on to investments (39% probability); this likelihood slumps further (to 33%) under SID reforms. So Henry Review recommendations do prompt a reduction in supply from the negatively geared; Tables 10 and 11 offers some numbers that give further insight into the scale of this supply response. Projections of the number of retained rental properties are arrived at by assuming those properties with forecast probabilities exceeding 50 per cent will be retained in 2006, while those with probabilities less than 50 per cent are withdrawn from the rental stock. Of the 100 negatively geared property investments in 2002, 61 are no longer leased to tenants in 2006 under current tax arrangements. We forecast this to increase to 67 under Henry Review SID recommendations. Among other properties, where positive net rental incomes are generated, a different picture is painted by the predictions. There is a much larger sample of 359 property investments; under current tax arrangements we expect that just over a half (183) will have disappeared from the rental stock by 2006. But the SID reforms improve the supply response from these investors, with a smaller 154 landlords exiting the rental market. Critical to the overall supply response is the share of negatively geared investors. As pointed out above, they are a minority in the sample employed in this study and so we expect Henry Review recommendations to *on balance* actually improve the supply of private rental housing. But again we must point out that there is some uncertainty about the numbers of negatively geared investors in rental housing, so this conclusion is tentative. We can be more confident in asserting that the patterns of supply response will be very different depending on negative gearing status, with unleveraged investors more inclined to retain investments, while the negatively geared more typically retreat under the recommended reforms. However, because supply responses will be offsetting, a 'flight of investors' from private rental housing seems unlikely.

Table 10: Probability of retaining rental investment, property value and rental yields under current and SID tax arrangements, 2006, by landlord type

Landlord type	N	Property value in 2002 $	Gross rental yield in 2002 %	Probability of retaining rental investment % (based on means)	
				Current	SID
Other	359	356,157	6.1	49.2	57.43
Negatively geared	100	340,034	3.3	38.7	33.24
All	459	352,644	5.5	46.9	52.16

Source: Authors' own calculations using the 2002 and 2006 HILDA survey

[30] The samples used in estimating the models of investor behaviour differ from those used in Section 3.2, because Section 3.2 offers estimates based on landlords in the year 2006. But the model is based on a sample of landlords in 2002 (where the dependent variable is the probability of them retaining their rental investment in 2006). As a result mean property values, and gross rental yields differ from those in the sample in Section 3.2 because these values refer to the year 2002.

Table 11: Projected per cent and number that retain and exit rental investment under current and SID tax arrangements, 2006, by landlord type

Landlord type	N	Projected per cent that retain rental investments		Projected number that retain rental investments		Projected number that exit rental investments	
		Current	SID	Current	SID	Current	SID
Other	359	50.7	70.3	186	260	173	99
Negatively geared	100	19.6	10.8	19	10	81	90
All	459	44.2	57.9	205	270	254	189

Source: Authors' own calculations using the 2002 and 2006 HILDA survey

3.4 Impact on rents

Measures of the impact on tenant rents assume a long run market clearing mechanism, in which market rental *rates* converge on investors average user cost of capital, thus in the long run tax driven changes in user cost are passed on into market rents. In Section 3.2 we estimated a fall in average user cost of 30 basis points (8.0% to 7.7%), or 3.5 per cent as a result of the SID. We have applied this percentage reduction to tenant rents, as recorded in HILDA for a sample of 2143 private renter households. We are able to compute eligibility and entitlements to CRA by using AHURI-3M. The estimates in Table 12 below are arrived at under the arrangements current in 2006 (see Section 4 below for an analysis of CRA reform recommendations).

Table 12 presents findings for all tenants and for 10 equal size groups (deciles) ranked from those with lowest rents (decile 1) to those with the highest rents (decile 10). In column 2 we list the mean annual gross rent in each decile under current tax arrangements; column 3 presents the post-reform estimates where the 3.5 per cent overall reduction in user cost has been passed on into rents. Average CRA entitlements at pre- and post-reform rents are shown in columns 4 and 5; on deducting these assistance amounts from gross rents we obtain estimates of the typical housing costs or net rents of tenants in different segments of the market. The final row presents the overall market position before and after reform. We find that average annual rent falls by just over $300, but because CRA is related to rents paid, this translates into a smaller $285 per annum reduction in housing cost outlays. Broad based changes that impact on the supply side are not targeted, so it is unsurprising to find that the reduction in housing costs is greatest for tenants in the more expensive segments of the market. In the top decile, where average annual rents are $19 191, typical housing costs drop by as much as $672 per annum, a figure more than twice that typical of the market average ($285). Because tenants in this segment are all paying a rent well above the maximum CRA threshold, their entitlements are unaffected by the 3.5 per cent fall in market rents.

Table 13 presents HARs (net rent as a percentage of household disposable income)[31] and the incidence of HAS, defined as the proportion of tenants paying rents above 30 per cent of disposable income and in the bottom 40 per cent of the disposable income distribution. As the effects of tax reform are in absolute terms larger in the more expensive segments where tenants typically have higher incomes, the effects on HARs and rates of HAS are modest. The incidence of HAS falls by only 1 percentage

[31] In fact we use income unit measures of rent and disposable income because CRA is based on income unit measures of income and rent.

point from 14.8 to 13.8 per cent of all private rental tenants. In the more affordable segments the impacts are marginal. It turns out that Henry Review recommendations on reform to CRA are much more significant.

Table 12: Impacts of SID reforms on private renters' rent cost and assistance under existing CRA arrangements, by gross rent decile, 2006

Gross rent decile (1)	Mean gross rent current $ (2)	Mean gross rent SID $ (3)	Mean CRA current $ (4)	Mean CRA SID $ (5)	Mean net rent current $ (6)	Mean net rent SID $ (7)
1	2,487	2,400	79	62	2,408	2,338
2	3,904	3,768	393	354	3,512	3,414
3	5,069	4,891	512	470	4,556	4,421
4	6,101	5,887	932	894	5,168	4,993
5	7,202	6,950	992	966	6,210	5,984
6	8,387	8,093	1,361	1,341	7,026	6,753
7	9,709	9,370	1,193	1,192	8,516	8,178
8	11,112	10,723	1,212	1,212	9,900	9,511
9	13,405	12,936	1,013	1,013	12,392	11,923
10	19,191	18,519	461	461	18,730	18,058
Total	8,679	8,376	820	802	7,859	7,574

Source: Authors' own calculations using the 2006 HILDA Survey

Table 13: Impacts of SID reforms on private renters' housing affordability position under existing CRA arrangements, by gross rent decile, 2006

Gross rent decile	Mean HAR % original	Mean HAR % SID	Per cent in HAS original	Per cent in HAS SID
1	13.0	12.7	3.9	3.9
2	18.3	17.8	10.8	10.3
3	19.2	18.7	12.4	11.9
4	21.1	20.3	12.8	9.9
5	23.1	22.2	22.8	18.6
6	23.2	22.2	20.4	19.6
7	26.8	25.7	26.5	25.3
8	27.3	26.2	20.7	20.3
9	27.0	26.0	9.4	9.4
10	32.6	31.4	9.8	9.8
Total	23.1	22.3	14.8	13.8

Source: Authors' own calculations using the 2006 HILDA Survey

4 PROPOSED REFORMS TO RENT ASSISTANCE

We turn next to measuring the impacts of reforms proposed by the Henry Review in relation to CRA. The impacts of the CRA reforms are isolated by holding rents constant, that is ignoring the potentially supply side effects of the SID reform. As noted earlier in the report (see Section 1.3), the recommended changes to CRA target adults with incomes low enough to warrant ISPs, while shifting assistance with the costs (including housing) of raising children to the family payment system. At the same time, the recommended changes seek to reform the indexation of maximum rent thresholds (at which CRA is capped) in line with national rent movements, such that assistance for those eligible for CRA will keep pace with housing costs. We offer empirical estimates of the CRA recommendation's impacts on the housing affordability position of private renters in this section.

Under the existing CRA arrangements, private renters in receipt of federal ISPs, or FTB(A) at more than the base rate, are eligible for CRA to help cover the cost of housing. However, their rents must exceed the minimum rent thresholds applicable to their family composition and size. ISPs act as a passport to CRA eligibility for private renters without children, while the receipt of more than the base rate of FTB(A) allows those with children to access CRA.[32] CRA is paid at a rate of 50 cents in the dollar for rent payments above the minimum threshold and capped when the rent payment reaches the maximum rent threshold. Notably, the maximum rent threshold increases by number of children. For example, the weekly maximum rent threshold in 2006 rises from $111.87 for singles without children to $137.81 for sole parents with up to two children to $148.08 for sole parents with three or more children. Should a CRA recipient's income increase, the individual's CRA entitlement is not withdrawn until the recipient's ISP payment reduces to zero, or the recipient's FTB(A) payment falls below the base rate. After that, CRA is withdrawn at the same taper rate, which is applied to the ISP that acted as a 'passport' to eligibility, or the FTB(A) taper rate if a family is entitled to receive more than the base rate.

The Henry Review argues that current CRA rates of payment are inadequate and ought to be increased in order to support an adequate level of housing. Their inadequacy is due to indexing with respect to the CPI and so assistance tends to lag behind housing costs when rents accelerate ahead of the CPI. It is recommended that maximum thresholds be indexed to market rents and that CRA be extended to public housing tenants.[33]

We follow the suggestion of the Henry Review report (p.610) and set the maximum CRA rent threshold at the 25th percentile rent of one- and two-bedroom dwellings in capital cities. While one-bedroom dwellings might be thought adequate for households without children, it was recognised that there is a shortage of one-bedroom units in the housing stock, and so many childless households will occupy two-bedroom units. We have assumed that one bedroom maximum rates apply for singles and those for two bedrooms apply when a couple is eligible. To capture the effects of indexing over a number of years we undertake a counterfactual exercise and assume that the reform was introduced in the year 2000. The confidentialised unit record files of the

[32] Any family with children that receive and ISP will qualify for FTB(A) at more than the base rate.

[33] As our focus is on private renters in this report, we have not modelled the impacts of extending CRA to public housing tenants though this has been done previously using the same policy simulation model, AHURI-3M (see National Research Venture 1 Final Report on Housing assistance and economic participation by Dockery et al. 2008).

ABS 2000 SIH are used to derive the 25th percentile rents in 2000. These rents are then indexed according to the rent component of the CPI to 2006.[34]

The report (Henry Review, p.612) suggests minimum rent thresholds be set at 20 per cent of the base payment received by each ISP recipient, rather than a set flat amount, and we have followed this in our calculations. We interpret the term 'base payment' to mean the maximum ISP received when a client's income is below the income free threshold. For a client who is partnered, the base payment is calculated as the sum of the maximum ISP received by the client and his/her partner.

The Henry Review report does not indicate whether the minimum rent threshold should be indexed, so we instead utilise 2006 HILDA data to calculate 20 per cent of the base payment, rather than using a year 2000 measure, then indexing it forward.

As explained in Section 2, there is an important change to rules governing eligibility. We interpret the Henry Review recommendations to mean that eligibility will be linked to receipt of an ISP. Consequently, those accessing CRA under the family payment (FP) system because they receive more than the base rate of FTB(A), only remain eligible for CRA if they also receive an ISP. But a family eligible for CRA will get the same assistance levels as adults in childless households (see Section 1.4).

4.1 The new rent assistance thresholds compared to the old in 2006

Table 14 shows how CRA thresholds are estimated to change for all income unit types accessing CRA under the ISP and family payment systems. For those receiving CRA via the ISP system, the proposed maximum threshold increases for both singles and couples as a result of indexing the threshold according to the rent component of the CPI. Conversely, the typical minimum thresholds for singles and couples in this category are slightly lower. The increase in maximum threshold alleviates the housing affordability position of those paying rent above the pre-reform thresholds. The reduction in the minimum thresholds, though smaller as a proportion and amount, has the effect of reducing the proportion of income an ISP recipient must use to pay his/her rent before becoming eligible for receipt of CRA. Both changes are consistent with the objectives detailed in the Henry Review report.

An objective of new arrangements is the separation of function amongst the various payments with family payments intended to cover the direct cost of housing children, while CRA contributes to income support for the housing costs of adults in the family. With household composition no longer a factor in the calculation of CRA, maximum thresholds for families receiving CRA via family payments decrease across all family composition types. Average minimum thresholds again decrease across all categories of those receiving CRA under the family payment system for the same reason they decrease for childless singles and couples—with CRA intended to provide assistance only for the housing costs of the adults in the family and the minimum threshold set at 20 per cent of the ISP, minimum thresholds are lower than under existing arrangements.

[34] This is one of a number of alternatives. The Henry Review actually recommends the index of rents paid by clients of Centrelink. This is not as accessible as the rent component of the CPI, and so the latter has been used here. Future research might find it helpful to use alternative indexes in the same retrospective way, and evaluate which of the alternatives best alleviates the HAS of CRA recipients.

Table 14: 2006 CRA maximum and minimum weekly rent thresholds under pre-reform and post-reform arrangements

Income unit type	Maximum threshold		Minimum threshold	
	Existing	Proposed	Existing	Proposed (average)[b]
Childless and receiving ISP[a]				
Single no children	$111.87	$128.15	$44.80	$43.66
Couple no children	$136.24	$151.45	$72.90	$67.54
Children present and receiving ISP				
Single 1–2 children	$137.81	$128.15	$58.94	$49.87
Single 3+ children	$148.08	$128.15	$58.94	$49.76
Couple 1–2 children	$166.09	$151.45	$87.22	$57.97
Couple 3+ children	$176.36	$151.45	$87.22	$56.29

Source: Centrelink guide to government payments and authors' own calculations from the 2000 SIH and ABS CPI time series spreadsheet.

Notes:

a. ISP refers to income support payment.

b. The average has to be taken because the minimum threshold differs depending on which ISP the CRA recipient is receiving. For couples, the base payment is calculated as the sum of the maximum ISP received by both partners in the couple.

4.2 Private renters who 'win' and 'lose' under the proposed reforms

In this section we pose two key research questions about the Review's CRA recommendations and their impacts:

1. How many households retain, lose or gain CRA eligibility under the Review's recommendations?
2. Which socio-demographic groups retain and lose CRA eligibility under the Review's recommendations?

The introduction of the proposed CRA changes will inevitably create winners and losers in different segments of the private rental housing market. Table 15 provides population numbers of private renters who would retain, lose or gain eligibility if the reforms were introduced.

Under existing arrangements, over 1 million individuals or one-third of private renters are in receipt of CRA; 725 000 or two-thirds of CRA recipients retain eligibility for CRA under the proposed arrangements. However, it is notable that a significant proportion (329 000 or one-third) would lose their CRA entitlements upon introduction of the CRA reforms. As the Henry review recommendations pertaining to CRA are designed to further tighten targeting of the payment to those in need, the number of private renters losing eligibility far exceeds those gaining eligibility.

Private renters who gain eligibility to CRA under the proposed reforms are a small group with distinct characteristics. A common feature of these 'winners' are that their rent is below the minimum threshold under existing arrangements, but because the proposed arrangement sets the minimum threshold at 20 per cent of their base ISP,

the minimum threshold actually falls making these renters eligible for CRA under the proposed reforms.[35]

Table 15: Number and per cent of private renters that would retain, gain or lose eligibility to CRA after the reform, 2006a

CRA status	Number of people	Per cent of private renters
Eligible for CRA under pre-reform arrangements	1,053,790	33.3
Retain CRA after reform	724,806	22.9
Lose CRA after reform	328,984	10.4
Gain CRA after reform	24,217	0.8

Source: Authors' own calculations using the 2006 HILDA Survey

Note:

a. A private renter is assumed to retain, lose or gain CRA if his/her income unit retains, loses or gains eligibility for CRA respectively.

Table 16 provides a comparison of those private renters who lose their entitlement to CRA under the reform and those who retain eligibility. This enables us to identify the socio-demographic characteristics of those affected adversely by the reforms.

A key observation is that those who lose CRA are actually in receipt of a higher CRA entitlement under existing arrangements (an average of $2956 compared to $2212 for those retaining eligibility). This is because the losers under the reform are private renters with children eligible because they receive more than the base rate of FTB(A). As noted previously, under the current arrangement, the maximum rent threshold that must be reached before one's CRA entitlement is capped, is higher among those with children than those without children. For example, a sole parent with two children has a maximum threshold of $137.81 per week compared to $111.87 for a single. Hence, the maximum rate of CRA that a private renter is entitled to is higher for those with children, holding all other factors such as rent constant.

Those losing eligibility are typically in their child-raising years. Due to the targeted nature of the reform, it is not surprising to find that they have higher average incomes, are younger and more likely to be earners (over half are employed full-time). Almost all 'losers' are in receipt of a family payment but not eligible for an ISP. These results reflect previous Commonwealth government's extension of FTB(A) to middle-income families, automatically enabling these families to receive CRA even though their incomes are not low enough to entitle them to an ISP. A small proportion of the losers are pensioners, who lose eligibility to CRA not because of their ISP status, but because their rent falls below the new minimum rent thresholds.

Overall, the proposed reforms largely succeed in removing relatively better off young families as clients of CRA, while targeting improved housing assistance on less well-off older singles and families.

[35] There is a small group who receive income support (which should entitle them to more than the base rate of FTB(A)), but do not report take up of FTB(A) in the HILDA Survey. Hence, under the reformed system, where eligibility for CRA is dependent on receipt of an ISP rather than FTB(A), these private renters would automatically gain access to CRA.

Table 16: Characteristics of private renters (persons) who would retain or lose CRA after the reform, 2006, per cent by column unless stated otherwise

Characteristics		Lose CRA	Retain CRA	All
Mean annual CRA ($)	Pre-form CRA	2,956	2,212	2,434
Mean age (years)		35.62	44.69	41.98
Income unit type (%)	Couple with children	80.84	16.89	35.97
	Couple with no children	0.70	18.67	13.31
	Sole parent	17.07	19.85	19.02
	Single	1.39	44.59	31.70
Annual gross income ($)		33,359	20,595	24,403
Labour force status (%)	Employed full-time	50.87	6.07	19.44
	Employed part-time	16.38	19.85	18.81
	Unemployed	4.18	12.30	9.88
	Not in the labour force	28.57	61.78	51.87
Location	Major city	67.6	53.0	57.4
	Inner regional	24.0	30.5	28.6
	Outer regional	7.3	14.4	12.3
	Remote or very remote	1.0	2.0	1.8
ISP payment	None (only receive FP)	97.9		29.2
	Pension	2.1	44.4	31.8
	Allowance		25.0	17.6
	Parenting Payment		22.2	15.6
	Other (Abstudy or Income Support Supplement)		0.7	0.5
	No ISP or family payment, but income unit receives CRA on basis of partner's eligibility for ISP		7.6	5.3

Source: Authors' own calculations using the 2006 HILDA Survey

4.3 The impact on private renters' housing affordability positions

Next we distinguish between four key groups affected by the CRA reforms, and assess their housing affordability positions before and after reform. These groups are:

- Income units with no dependent children in receipt of ISP who retain eligibility.
- Income units with dependent children in receipt of ISP who retain eligibility.
- All income units that gain eligibility.
- Income units that lose eligibility.

We ignore the impact of other recommendations to income support program that could also impact the housing affordability position of CRA clients.[36] The simulations

[36] There is an important caveat. Family payments allow for the incremental housing costs associated with children. The Henry Review does make some recommendations for reform of family payments; a key one, for example, is a proposal on how these payments should be restructured with respect to the age of children. These changes might offset losses for families losing eligibility for CRA, or those that have an

that we conduct isolate the impacts of CRA reforms assuming the provisions of all other ISP are unchanged.

Our estimates show that the mean CRA entitlement of childless adults would rise by almost 20 per cent. This is due to a higher maximum rent threshold that improves the maximum rate of CRA. The maximum threshold of singles (couples) with no children climbs by 15 per cent (11%). Furthermore, changes to minimum thresholds results in a fall in the minimum threshold for some private renters, increasing the CRA payments for all those affected. Housing costs net of CRA falls from an average $4800 to $4500 under the reform, and the proportion of private renters in housing stress drops from 37 to 29 per cent.

The picture, however, is not so positive for CRA eligible ISP recipients with children. There are two offsetting impacts. First, the proposed maximum rent thresholds do not account for the presence of children, so singles and couples with children will find themselves facing lower maximum thresholds under the proposed arrangement, even though they retain access to CRA due to their ISP eligibility. This is, however, balanced by the simultaneous decline in minimum rent thresholds for most ISP recipients with children; the latter increases CRA entitlements, holding all else constant. For example, a typical couple with two children will find themselves facing a minimum rent threshold of $58 rather than $87 under the reforms. The simulations indicate that for this group, the impact of the decline in minimum rent thresholds is greater, so the average CRA entitlement does rise by some 9 per cent, though clearly this rise is smaller than for childless recipients. The proportion of parent clients (of the reformed CRA) in housing stress falls by one percentage point only.

The small group gaining eligibility enjoys an average net gain of $1555. Among those losing eligibility, the average net loss is $2900, their total CRA entitlement. Their average net rent rises by over one-third.[37] However, few tumble into housing stress; the proportion of those losing eligibility and suffering HAS rises by just 0.5 percentage points. This is because the targeted nature of the reforms is such that those losing eligibility are more likely than not to be in the top 60 per cent of the income distribution, and unlikely to be in housing stress in the first place. Three-quarters of those losing eligibility are in the top three quintiles of the income distribution, compared to only one-quarter of those who retain eligibility. The average disposable income of those losing eligibility is over $46 000, almost three times the income of ISP recipients with no children who retain eligibility.

Overall, the proposed CRA reforms would reduce Commonwealth spending on rent assistance for private renters by 20 per cent from approximately $1.9 billion to $1.5 billion.

ISP and retain eligibility but at the same maximum thresholds as childless adults. An important future direction for research is an accounting exercise with respect to the full range of changes affecting the clients of housing assistance programs. We develop this point further in the concluding section.

[37] Once again we should point out the caveat in footnote 36. See also Section 5 for further discussion.

Table 17: Mean annual CRA and net rent pre- and post-reform, 2006, by CRA group

	Retain eligibility, ISP recipients with no children	Retain eligibility, ISP recipients with children	Gain eligibility	Lose eligibility
N	364	191	15	170
Population N	367,114	217,173	16,365	200,637
Mean CRA $ Current	1,959	2,631	0	2,900
Mean CRA $ Proposed	2,312	2,878	1,555	0
Mean disposable income $	16,136	31,507	24,430	46,441
Mean Net Rent $ Current	4,812	6,290	6,193	7,986
Mean Net Rent $ Proposed	4,458	6,043	4,637	10,886
Mean HAR % Current	32.7	22.4	29.7	21.4
Mean HAR % Proposed	30.1	21.1	22.0	28.9
Per cent in HAS Current	36.8	8.9	33.3	7.7
Per cent in HAS Proposed	28.6	7.9	26.7	8.2

Source: Authors' own calculations using the 2006 HILDA Survey

5 SUMMARY AND FUTURE RESEARCH DIRECTIONS

5.1 Summary

There are two main recommendations from the Henry Review on tax reform that have a direct bearing on the private rental housing system:

1. The present array of stamp duties on conveyance is to be abolished and replaced by a broad based land tax that is levied according to a progressive rate structure applied to individual land values per hectare. We deal with this reform proposal in our second report.
2. A savings income discount (SID) of 40 per cent will apply to the net rental income (including capital gains) from most non-business assets other than shares.

The latter will offer a more balanced tax treatment of rental income and capital gains, while curbing some of the tax shelter benefits from negative gearing. Instead of including 100 per cent of net income from property investments in tax returns reporting assessable income, the investor will be required to include 60 per cent. At present 50 per cent of capital gains are taxed; so the tax treatment of capital gains is not as favourable under the proposed Henry Review reforms, and they therefore blunt (but do not eliminate) incentives to 'chase' capital gains.

There are fears of a contraction in private rental housing stock as negatively geared investors may find that curbs on their capacity to deduct losses make retention of rental investments less financially attractive. Indeed, our simulation exercise finds that negatively geared investors are adversely affected; the hurdle rate that rent yields must reach if these investors are to achieve an economic return (cover their user costs) rises 50 *basis points* from 8.0 to 8.5 per cent. The 'flight' of negatively geared investors could result in a sharp contraction in rental supply, rising market rents and a further tightening of rental markets. However, positive net rents accrue to other investors and so SID results in a lower tax burden on rents because 60 per cent of their rent income is assessable, rather than 100 per cent under current arrangements. Despite more heavily taxed capital gains, the user cost of these investors falls by 50 *basis points* to 7.5 per cent.

Our modelling suggests that the patterns of supply response will be very different depending on negative gearing status, with unleveraged and equity oriented investors more inclined to retain investments, while the negatively geared more typically retreat under the recommended reforms. Under current tax arrangements we expect a typical investor in 2002 to have a 47 per cent probability of retaining a rental property investment in 2006. But negatively geared investors are less likely to hang on to investments (39% probability); this likelihood slumps further (to 33%) under SID reforms. But because supply responses will be offsetting a 'flight of investors' from private rental housing seems unlikely.

The Henry Review report expresses some concern about the possible adverse supply and rent consequences of the SID reforms. This is one motivation for recommended CRA reforms, though more important ones seem to be better targeting of assistance, its more accurate indexing to rents and the separation of income support and family payments as regards their role in meeting housing costs. The report recommendations offer tenure neutral assistance with the incremental housing costs associated with *children*, while fully integrating CRA within income support programs for *adults*, such that an adult paying a rent of $X will receive the same CRA whether or not a parent. Tenant families eligible for FTB(A) at more than the base rate, but

ineligible for an ISP, lose all CRA entitlement. There is then a separation of the role of income support to meet the housing costs of needy adults, and that of family payments to help with the additional costs of providing shelter for children.

We estimate that under existing arrangements, over 1 million individuals or one-third of private renters receive CRA; almost one-third (329 000) become ineligible and lose all their CRA entitlements upon introduction of these CRA reforms. They are typically younger families with at least one parent employed and incomes further up the income distribution than typical for CRA recipients. Very few gain eligibility because minimum rent thresholds decline under the Review's recommendations. On the other hand, there is a substantial improvement in the housing affordability position of those hanging on to their eligibility status. Indeed the proportion of private renters in housing stress drops from 37 to 29 per cent following introduction of changes to both thresholds and eligibility criteria. Overall, the proposed CRA reforms would reduce Commonwealth spending on rent assistance for private renters by around 20 per cent from approximately $1.9 billion to $1.5 billion.

5.2 Future directions

There are some caveats to our findings, which warrant further investigation in future research. The expected contracted in supply of rental housing will only occur if existing rental investors sell their properties to non-investors, that is owner occupiers. If existing rental investors sell their properties to other investors, the impacts of SID will be reflected in reduced prices paid by those new investors. Also, some existing negatively geared rental investors may respond to the SID reforms by shifting their investment financing methods away from debt to equity-based finance rather than realising their rental investment in response to the reforms. These patterns can be observed if we are able to observe investors' behaviour over a longer timeframe than is currently permitted by the data.

The next wealth module will be available in the 2010 HILDA Survey (wave 10), which will be released in early 2012, permitting a timely opportunity to update AHURI-3M such that longitudinal analysis of investor behaviour can be conducted over the period spanning 2002, 2006 and 2010, covering periods of strong house price growth in the early part of last decade followed by a downturn in housing market conditions in the latter part of the decade. While sample numbers have limited our analysis of investor behaviour to landlords in 2002 and their subsequent retention or exit decisions, the addition of 2010 allow investigation of the entry of new landlords over a nearly 10-year period. This is an opportunity to identify the factors shaping decision to *add* rental property investments to wealth portfolios. There is another important information gain from the much longer time span; we know that some landlords churn in and out of rental property investments and we suspect a motivation is refinancing to more fully exploit negative gearing tax shelter benefits. The longer time frame permits a more thorough investigation of this phenomena and their significance.

The proportion of negatively geared residential landlords is an important determinant of housing supply responses to the SID recommendation, and indeed any reform that impacts on negative gearing. But we are unsure about the extent of negative gearing and this gap in our knowledge is important. The ABS Rental Investors Survey was our best source of information on Australian landlords, but the survey ceased in 1997. It is now dated; there may well have been changes in the investment climate since then that have made negatively geared residential property a more common investment strategy. A repeat of this survey would help fill important gaps in our knowledge base that are critical to an understanding of the forces shaping the supply of affordable rental housing.

There is an important caveat to our findings on CRA reform impacts. Family payments allow for the incremental housing costs associated with children. The Henry Review does make some recommendations for reform of family payments; a key one, for example, is a proposal on how these payments should be restructured with respect to the age of children. These changes might help offset losses for families losing eligibility for CRA, or those that have an ISP and retain eligibility but at the same maximum thresholds as childless adults. Indeed, this prompts a general remark. With broad based reforms to income support programs and taxes a range of changes might increase or decrease the disposable incomes of *housing assistance clients*. An important future direction for research is an accounting exercise with respect to the full range of changes (ISP and taxes) affecting the clients of housing assistance programs. An annual accounting exercise that summarises the net impact of the various reforms on public housing and CRA tenants would help inform policy debate on how the affordability position of clients is impacted by federal government policy.

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APPENDICES

Appendix 1: Characteristics of rental housing investors and tenants

Table A1 presents the key characteristics of residential landlords and private renters compared to the general Australian population in 2006. In the 2006 HILDA Survey, there are 865 individuals with residential landlord status, representing over 1 million landlords or 7.3 per cent of the population owning approximately 634 000 property portfolios when population weights are applied. The number of private renters is 2816, representing 3.1 million or 22 per cent of the population in 2006.

We find that landlords have specific characteristics that are distinctly different from that of Australians in general. Over half of residential landlords are middle-aged compared to 38 per cent of all Australians. Landlords are also significantly more likely to be married (almost 70%) and have dependent children than the typical Australian adult (52%). They tend to have better qualifications, and are more likely to be engaged in the labour market than the average Australian; approximately 85 per cent of residential landlords are employed. Landlords' are better off in economic terms; their average disposable incomes are some 54 per cent higher than that of all Australians, and their accumulated wealth is twice that of the general population. However, it is worth noting that landlords are also more highly geared due to their investment in properties; landlord debt levels are three times typical indebtedness among the population. Finally, in keeping with comparisons based on income, landlords' marginal income tax rate (MITR) are more highly skewed towards the higher tax brackets.

The profile of private renters is, however, very different. This group tends to be younger, with over half aged under 35 years, and unsurprisingly they are more likely to be unmarried and also more likely to have a history of 'failed' relationships; over 70 per cent have no dependent children. Because they are typically younger, private renters have a relatively high participation in full-time employment. However, they have fewer assets to fall back on and their debt levels are lower than average. This is indicative of the nature of private renters' wealth portfolios, which usually do not contain properties. On the other hand, the average accumulated wealth of the Australian population is reflective of the high proportion of home owners in the population.

Table A1: Characteristics of residential landlords and private renters, 2006

Characteristics	Residential landlords	Private renters	All Australians
Age band (%)			
<35 years	14.6%	57.4%	30.6%
35–54 years	53.5%	30.4%	38.1%
55+ years	31.9%	12.2%	31.2%
Marital status (%)			
Legally married	69.0%	25.1%	51.7%
De facto	13.3%	24.1%	13.3%
Separated	1.8%	4.5%	3.0%
Divorced	5.4%	9.3%	6.9%
Widowed	3.2%	2.8%	6.0%

Single never married	7.2%	34.1%	19.0%
Presence of dependent children (%)			
No dependent children	57.3%	70.3%	66.2%
Have dependent children	42.7%	29.7%	33.8%
Highest qualification (%)			
University degree or higher	35.5%	21.3%	21.7%
Other post-school qualification	32.9%	28.8%	31.7%
No post-school qualification	31.6%	49.8%	46.5%
Labour force status (%)			
Employed full-time	62.4%	53.0%	47.2%
Employed part-time	21.6%	18.6%	18.6%
Unemployed	1.0%	5.7%	2.9%
Not in the labour force	14.9%	22.7%	31.3%
Income and assets ($)			
Mean personal annual disposable income	49,448	30,461	32,086
Mean household asset value	1,713,078	191,805	781,616
Mean household debt value	371,194	46,680	125,111
Mean MITR (%)			
Per cent in MITR bracket			
0%	7.5%	14.7%	15.2%
15%	15.3%	33.0%	31.3%
30%	50.9%	41.5%	46.1%
40%	21.5%	9.2%	6.7%
45%	4.9%	1.6%	0.7%

Source: Authors' own calculations from the HILDA Survey wave 6.

Appendix 2: The user cost of rental investors: algebraic expression

$$UC = \frac{i+v}{(1-\phi)} - CAP + AMORT \times (CAPTAX + TRANSCOST)$$

where

UC = user cost

$v = m + t_p + t_L(1-\lambda_s) + b\lambda_s$

$$CAP = \frac{\pi_h - d}{(1-t_y)(1-\phi)}$$

$$AMORT = \frac{\delta}{(1-t_y)(e^{\delta T}-1)(1-\phi)}$$

$$CAPTAX = \tfrac{1}{2} t_y \left[(1-\beta)e^{\pi_h T} - (1+s)\right]e^{-kT}$$

$$TRANSCOST = s + \beta e^{\delta T}$$

i = interest rate

ϕ = agency costs as a proportion of gross rent

t_y = MITR (weighted average of partners of income unit in the case of couples)

m = maintenance costs as a fraction of asset price

t_p = property taxes as a fraction of asset price

t_l = land tax rate (applied to land value)

λ_s = the ratio of the building value to the asset price

$t_L(1-\lambda_s)$ = land tax as a fraction of asset attributable to land value

b = building insurance premium rate (applied to building value)

π_h = house price appreciation rate

d = rate of economic depreciation (excluding fittings)

$\delta = \pi_h - (d+k)$

T = holding period

β = brokerage fees as a fraction of asset price

s = stamp duties as a fraction of asset price

$k = (1-t_y)i$

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