

# BUYING'S ONE THING, HOLDING'S ANOTHER: HOW MUCH DOES AUSTRALIAN HOUSING REALLY COST?

*Despite widespread media reports on the problem of housing affordability, our research finds that user housing costs appear relatively modest except for the late 1980s and early 1990s, and the early 2000s. This paper presents estimates of the user cost of housing, a measure of housing affordability that takes into account the full range of housing costs and benefits for owner-occupiers and investors and the typical multi-year holding period for residential property. Our research also examines the differences in housing costs between owner-occupiers and investors.*

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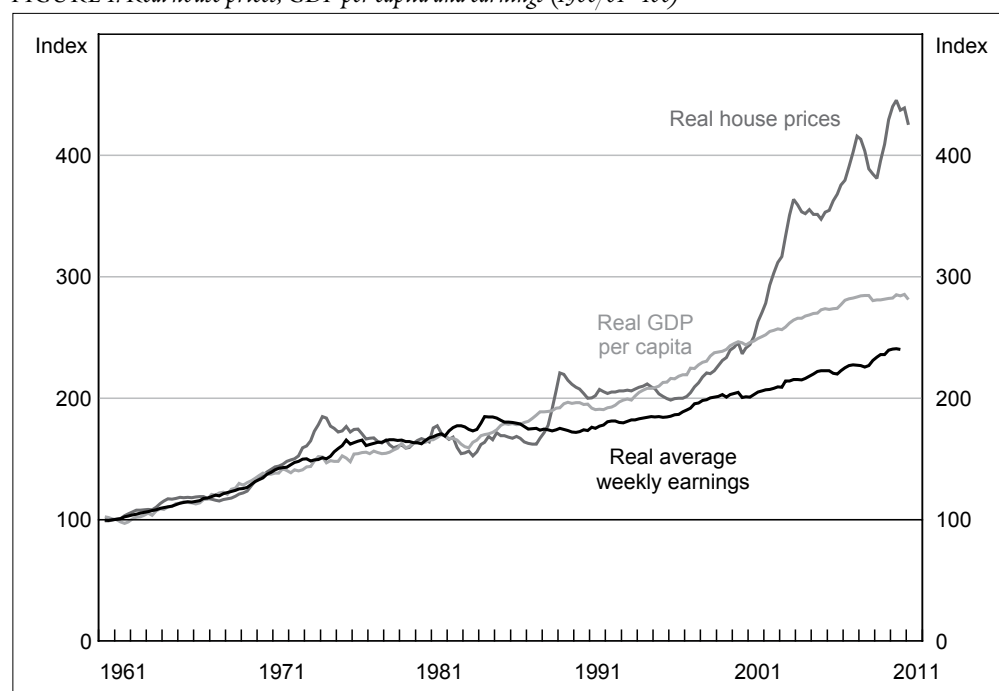
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In recent years there has been considerable public discussion about house prices in Australia, much of it focused on the problem of 'housing affordability' confronting first home buyers. Addressing this issue, the Senate Select Committee on Housing Affordability in Australia reported in June 2008 that, 'There is a significant problem with housing affordability', but qualified this conclusion slightly by adding 'albeit not as severe or widespread as some media reports suggest'. Public perceptions have changed little since the release of the report. For example, Senator Ludlam (2011) released a media statement with the heading 'Housing affordability in Australia a "world-class outrage"'.

There is no doubt that in many parts of Australia house prices, relative to income, are currently at historically high levels. Figure 1, taken from Yates (2011), puts current house prices into historical perspective.

FIGURE 1: Real house prices, GDP per capita and earnings (1960/61=100)



Source: Yates (2011); data from Ableson and Chung (2005), ABS, Treasury, REIA.

There is also no doubt that, all other things being equal, a higher house price reduces affordability from the perspective of potential purchasers. But housing affordability relates also to the costs incurred by existing homeowners (who are a much larger group).<sup>1</sup> The Australian Housing and Urban Research Institute (AHURI) defines housing affordability as, 'the financial outcome for a household of renting or purchasing the dwelling they need or wish to occupy' (AHURI 2006). AHURI adds that:

There are different measures for different purposes ... Some focus on whether households have sufficient incomes to save to enter home purchase; others focus on whether households have sufficient income to sustain their housing payments; still others focus on whether households have sufficient income after paying for their housing to buy the basic necessities of life.

The price paid for a house is, of course, a very important component of housing costs. For a potential buyer, a higher price reduces affordability but for a current owner, a higher price is like a negative cost and hence reduces a current owner's housing costs. Moreover, there are many costs other than the purchase price. Examples include interest payable on debt used to purchase a property, a wide range of ongoing costs such as maintenance and local government rates and (for investors) income tax. In this paper we present estimates of a measure known as the 'user cost of housing' (UCH), which takes into account the full range of housing costs.

Our focus here can be summarised as asking the question: what was the average weekly cost incurred by an individual who purchased a house at some specified date, and who then owned the property for a specified time period (five years is used) before selling? It is thus an ex post analysis and the results depend upon the date of purchase and a range of assumptions, including whether the purchase is for owner occupation or for investment. The main cost differences between owner occupation and investment are due to taxation arrangements.

Our estimates show a pattern in housing costs that is considerably different from the rapidly increasing trend of real housing costs depicted in Figure 1. Contrary to many analyses, we show that user costs in Brisbane, Melbourne and Sydney have been reasonably modest — below \$500 per week in real terms (2010 dollars) for a median-price

three-bedroom house — for much of the period from 1988 to 2010. User costs were, however, much higher in the high interest rate period of the late 1980s and early 1990s and the high housing price, low price appreciation period of the early 2000s.

## Measuring the user cost of housing

The user cost of housing is an imputed value. It is the net present value of the costs of owning a housing unit over a given holding period. There are three components of this discounted value. The first is the cost of purchasing the property, which includes the down payment and the costs of conveyancing and stamp duty, net of any offsetting first homeowner grants.<sup>2</sup>

The second cost component includes the running costs of holding the property such as mortgage interest, repairs and maintenance, the opportunity cost of the funds tied up in housing equity and economic depreciation. When the property is a rental property, we take into account that rental income is taxable and holding costs are deductible. It should be noted that 'paying off the mortgage' does not substantially reduce the economic running costs. It shifts the cost from mortgage interest to the opportunity cost of housing equity. For rental properties, this shift will eliminate the mortgage interest deduction and increase the tax payable, which may have the perverse effect of increasing the running cost.

The final cost component is the net costs of sale. These include all sales commissions, legal costs, capital gains tax (if applicable) and other costs of disposing of the property. These costs are offset by the selling price of the property net of the outstanding balance on the mortgage used to finance the property. In a strongly appreciating property market, the net costs of sale will be negative because the capital gain is greater than the sum of the other costs but, in a flat or declining property market, the net cost of sale will be positive because the reverse occurs.

The three cost components occur at different points during the holding period. Therefore, they must be discounted at the property owner's opportunity cost of funds to account for the time value of money. We use Australia-wide quarterly data on the cash management trust rate to measure the opportunity cost of funds before tax. This choice was made because we require a return on a retail investment that is readily available to individual homeowners

Figure 2: Real annual user cost of housing (2010 dollars)

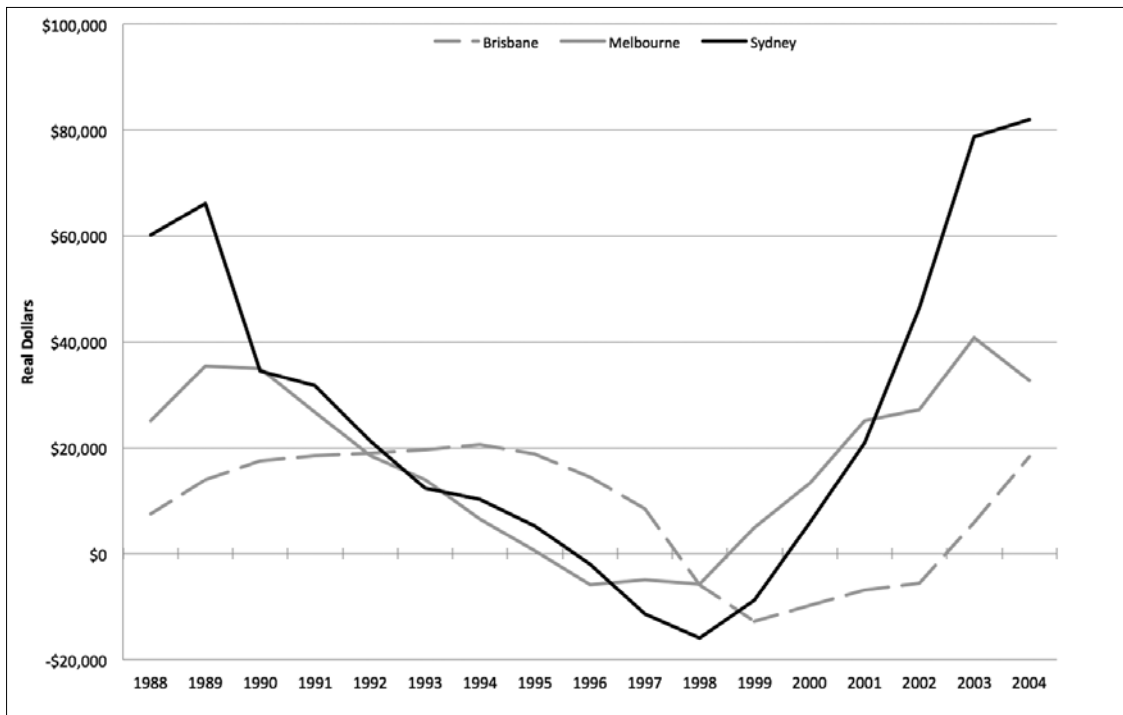
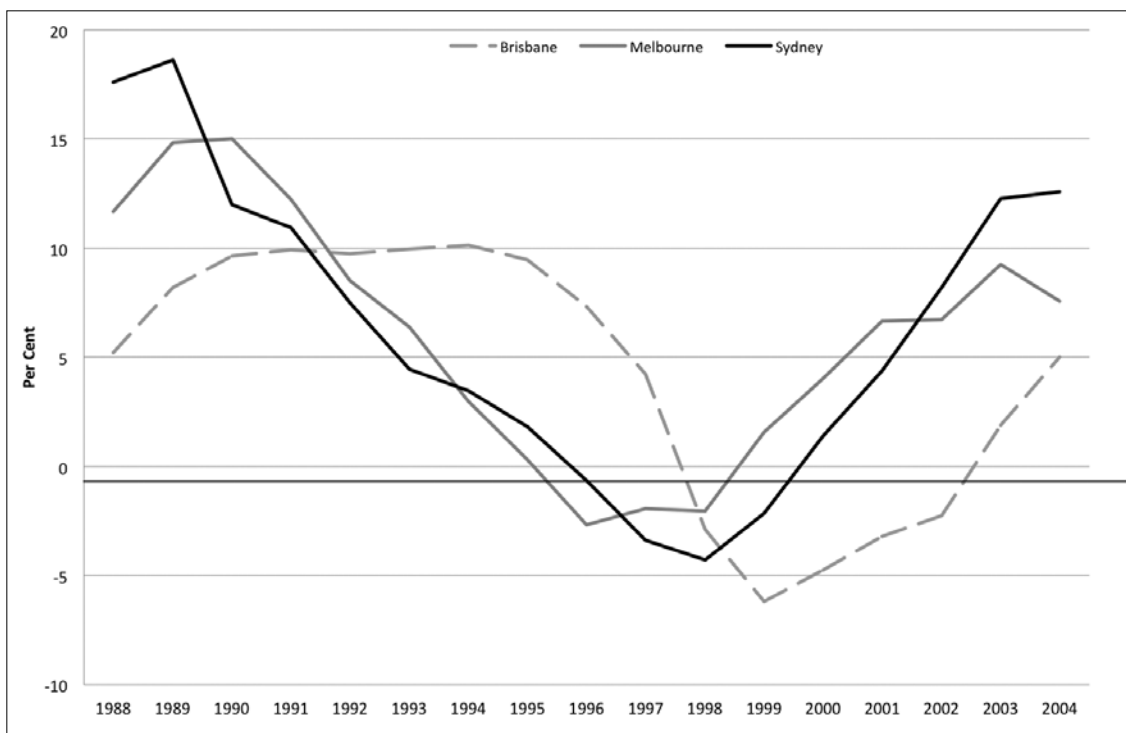


Figure 3: User cost of housing as a percentage of house price



*All other things being equal, a higher house price increases the user cost because the acquisition cost is higher, but price appreciation during the holding period reduces the user cost. Therefore, a city with higher house prices (like Sydney) does not necessarily have a higher user cost of housing.*

and small investors.<sup>3</sup> Discounting is done at the after-tax rate calculated using the marginal tax rate for our representative property owners. The calculations described above capitalise the costs of owning a housing unit. This value will depend greatly on the holding period. To allow easy comparison across holding periods, we follow the established practice of spreading the net present value out over the holding period by calculating the equivalent quarterly cost using the property owner's opportunity cost of funds. To further promote comparisons across cities and time, we also calculate the quarterly user cost as a percentage of the house purchase price. For the details of the calculations, see Brown et al. (2011).

## Overview: the user cost of housing in Australia 1988 – 2010

We investigate the real user cost of median-price three-bedroom housing in Sydney, Melbourne and Brisbane for overlapping five-year holding periods beginning in the March quarter of 1988 and ending with the March quarter of 2010. We consider two representative property owners – one an owner-occupier and the other an investor – and assume that these owners earn twice average weekly earnings and borrow 80 per cent of the purchase price.<sup>4</sup> We take into account the different tax treatments applicable to owner-occupiers and investors and build in the various changes in income tax rates and stamp duty rates as well as the significant changes to capital gains tax legislation that took effect in September 1999.

The findings for owner-occupiers<sup>5</sup> are summarised in Figure 2, which plots weekly user costs for overlapping five-year holding periods. For example, in the figure, '1988' means the five-year holding period from March 1988 to March 1993. A striking feature of Figure 2 is that all three cities generally display a similar trend over time: high user costs early in the period (when interest rates were high), falling over time until the five-year period beginning around 1998–99. Initially, this decrease in the user cost was driven by falling interest rates but, subsequently, the decrease was fuelled by the capital gains from accelerating house prices. Property price appreciation was high enough between 1996 and 1999 to cause the user cost to be negative (that is, in hindsight, this period was a good time to enter the market). Towards the end of the period the user cost again increased as property price appreciation slowed. Figure 2 also gives the impression – confirmed by statistical tests – that Brisbane behaves somewhat differently from the other two cities. There is, however, no consistency in the rank of each city: for example, at times, Sydney had the highest user cost and at other times the lowest user cost. In contrast, throughout the period studied, house prices in Sydney were higher than in the other two cities. All other things being equal, a higher house price increases the user cost because the acquisition cost is higher, but price appreciation during the holding period reduces the user cost. Therefore, a city with higher house prices (like Sydney) does not necessarily have a higher user cost of housing.

Figure 3, which provides a summary of user costs as a percentage of the house price, shows similar patterns to those observed in Figure 2. The percentage user cost is highly variable over time, from a low of about - 6 per cent per annum to a high of nearly 20 per cent per annum. Similarly, it is high early in the period, then falls and then rises towards the end of the period. Again, Brisbane appears to behave differently from Sydney and Melbourne, and different cities occupy the highest and lowest cost rank at different times.

Australian property investors face both cost advantages and cost disadvantages relative to owner-occupiers. Investors pay tax on their net taxable income from renting the property. When the outgoings exceed rental income, this loss may be deducted from other income for tax purposes. These are the gains from negative gearing so often commented on. Since owner-occupiers cannot negatively gear their property for tax purposes, investors have a cost advantage relative to owner-occupiers when rental income lags expenses. The magnitude of this cost advantage is illustrated in Figure 4. This figure shows the extent to which the user cost of housing of owner-occupiers exceeded that of investors. It is clear from the figure that, in many years, owner-occupiers paid more than investors for the same housing. However, during years of rapid house price appreciation, owner-occupiers paid less than investors. This is because property investors must pay capital gains tax, while owner-occupiers do not. This considerable cost disadvantage for investors outweighed the advantage of negative gearing during the late 1990s.

The comparison between investors and owner-occupiers in Figure 4 should be viewed with some caution. It is too easy to focus on the highs or lows in the comparison. The figure shows that some investors were lucky or unlucky in the timing of their investment. It is better to make this comparison over the long run. Over our sample period, investors had a long-run cost advantage, but it was not huge. It was \$7 per week in Brisbane, \$125 per week in Melbourne and \$129 per week in Sydney. A second reason for being cautious is that the interpretations of the results portrayed in Figure 4 depend on one's viewpoint. For example, to an owner-occupier they appear to advantage investors, while to a renter, competition among landlords for tenants should mean that the cost advantage is passed on as lower rents.

## Causes

It is natural at this point to ask what caused the U-shaped time pattern in the user cost of housing. Three plausible explanations of this pattern are: house prices; changes in interest rates; and changes in taxation. Each of these factors changed significantly between 1988 and 2010 and each played a role in determining the user cost. However, our investigations show that it was house price changes that primarily determined the time pattern in the user cost of housing. Figure 5 highlights this point

Figure 4: Owner-occupiers premium

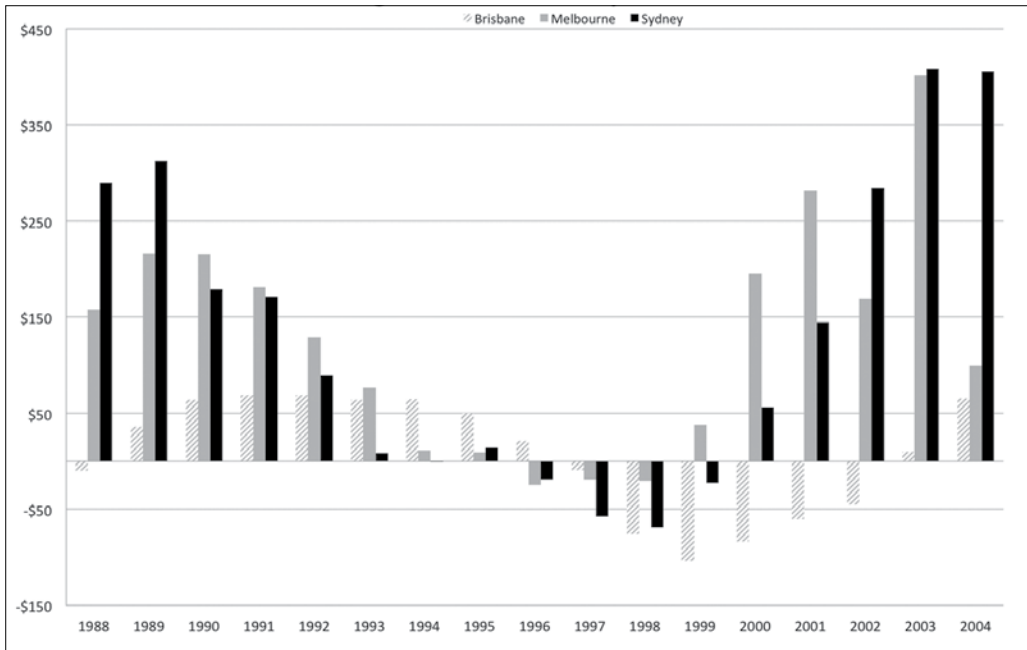
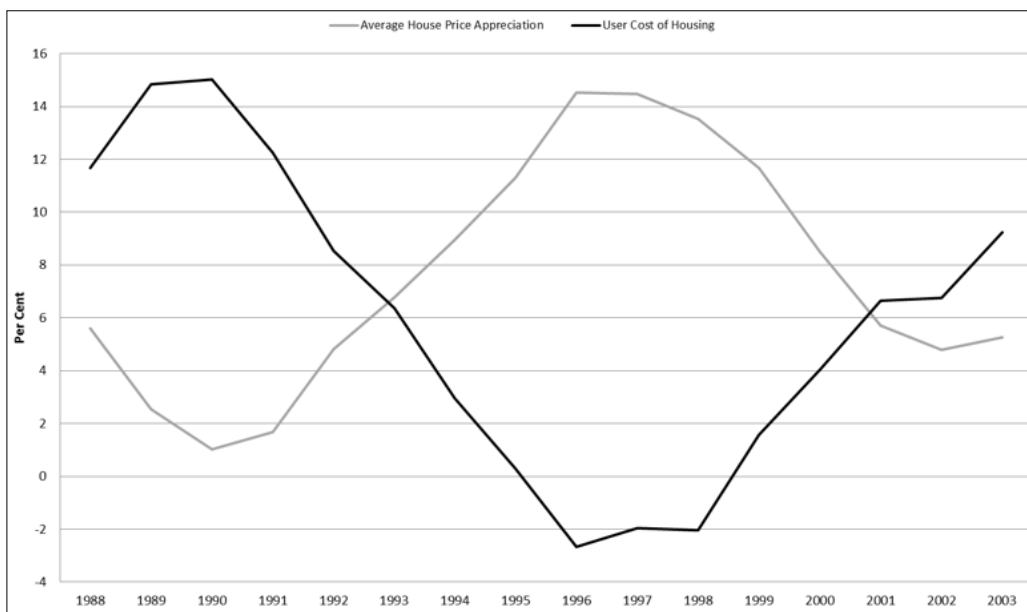


Figure 5: Comparison of the user cost of housing as a percentage of the house price and average house price appreciation (Melbourne)

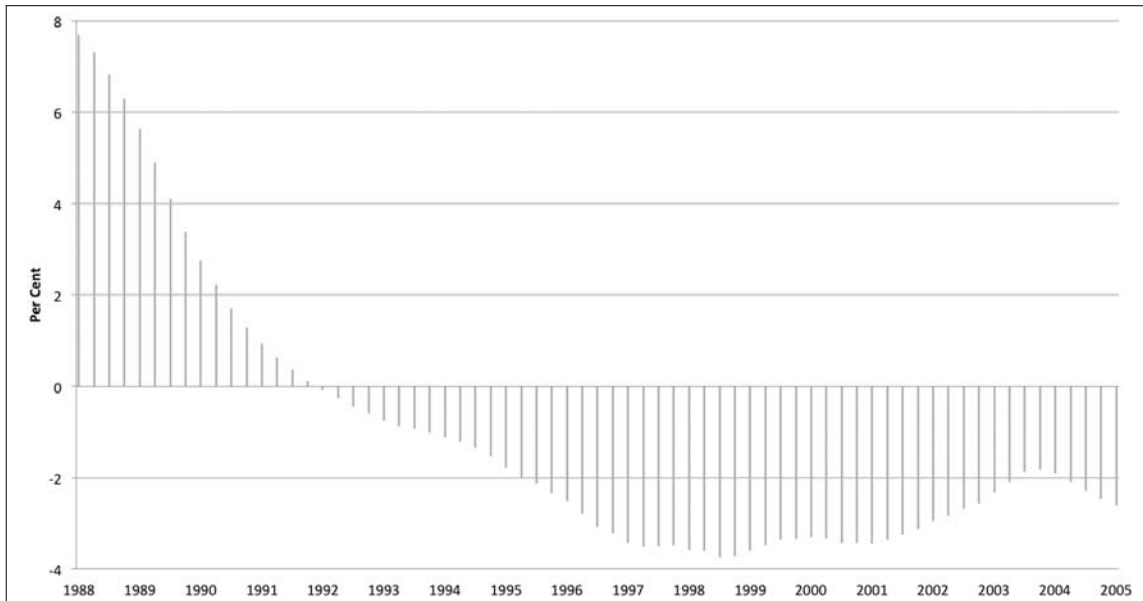


by plotting the user cost of housing for our reference group of owner-occupiers as a percentage of the house price for Melbourne against the average rate of house price appreciation<sup>6</sup> in Melbourne for each of the five-year holding periods.<sup>7</sup> The result is striking — the two time series are almost mirror images. When the average rate of house price appreciation rises, the user cost falls and vice versa. This result holds for investors as well.

To get some idea of the effect of the marked decline in interest rates prior to the mid-1990s, we calculated the percentage owner-occupier user cost of housing that would have prevailed had interest rates been fixed at

their average rates for the 1988–2010 period and then compared these costs with the actual costs in Figure 3. Figure 6 depicts the result of our experiment by showing the actual user cost minus the fixed interest rate user cost. The drop in interest rates reduced the user cost of housing by 8 per cent between 1988 and 1991 and a further 4 per cent between 1991 and 1996. Since 1996, a gradual rise in interest rates has been reflected in an approximately 2 per cent increase in the user cost. Thus the downward leg of the U-shaped time pattern in the user cost of housing was driven in part by an interest rate decrease, but its role was small in the upward leg.

Figure 6: The effect of the interest rate on the user cost of housing (Melbourne)



Tax changes are the third plausible explanation of changes in the user cost of housing across time. Our tax rate experiments suggest that changes in income tax rates had only a minor effect at most.

The changes to capital gains taxation (CGT) were the most profound change in the tax provisions during the period. Prior to 1999, long-term capital gains were subject to tax only to the extent that they exceeded inflation. In 1999 the system was changed to 50 per cent of a nominal capital gain being taxable — frequently described as a ‘50 per cent discount’. However, investors who owned properties at the time of the change were permitted to choose to remain under the old system but with the important variation that the inflation adjustment would be frozen at the level it had when the change occurred.

At the time of the tax changes, there was considerable discussion of whether, compared with the previous system, the new system would generate more, or less, tax on properties purchased after 1999. In simple terms, the tax collected would increase (decrease) under the new system if property prices grew at less (more) than twice the inflation rate. Hence, the question arises: Did the 1999 changes to CGT increase or decrease the user cost for property investors? Brown et al. (2011) conducted a partial test<sup>8</sup> of the impact of the 1999 changes by calculating the user cost after 1999 but assuming that the 1985 system continued. Their results suggest that the CGT changes reduced the user cost (expressed as an annual percentage) but rarely by more than a few percentage points a year, and usually by much less than that. Moreover, even this modest reduction tended to decline over time.

It can be argued that, if a capital gain is in fact income, then it should be subject to income tax in the ordinary way — that is, with no discount. Indeed, capital gains realised within 12 months of asset acquisition have long

been treated in precisely this fashion. In this sense, the 50 per cent discount is a distortion in the tax system.<sup>9</sup> How great is the effect of this distortion? Brown et al. (2011) constructed a similar test by estimating what the user cost for investors would have been if no discount were allowed. At first, the effect is significant, with the user cost (expressed as a rate per year) increasing by 3 to 4 percentage points per year. Later in the period, as house price growth slowed, the value of the discount to the investor declined to around 1 percentage point per year.

## Conclusion

An objective of this paper was to present estimates of housing affordability that take into account the full range of housing costs and benefits for owner-occupiers and investors, and the typical multi-year holding period for residential property. This measure is termed the user cost of housing.

User costs appear relatively modest except for the late 1980s and early 1990s, and the early 2000s, largely because the capital gains from holding property have often offset the direct costs of property ownership. The other major factor that has helped to keep user costs low has been the decline in mortgage and other interest rates since the early 1990s. We show that this rate reduction reduced the user cost of housing in 2010 by about 10 per cent compared with 1988.

The paper had one further objective, which was to draw out the differences in housing costs between owner-occupiers and investors. Our research shows that investors have lower housing costs than owner-occupiers during periods of low house price appreciation, but higher costs during periods of high house price appreciation. This dichotomy arises mainly because investors must pay capital gains tax while owner-occupiers do not. The disadvantages faced by investors relative to owner-

occupiers during periods of high house price appreciation are enough to more than offset the tax shield generated by negative gearing. Brown et al. (2011) summarised this by stating:

If [negative gearing] is a distortion, it is of a similar order of magnitude to the distortion of the large CGT discounts available to property owners: 50 per cent in the case of investors and 100 per cent in the case of owner-occupiers.

The upshot of this is that the tax system does not unambiguously favour either investors or owner-occupiers. ■

## Notes

1. Interestingly, the terms of reference for the Senate Committee seem to be based on the assumption that housing affordability is indeed limited to the barriers to becoming a home owner. The report includes a four-page glossary but 'housing affordability' is not included in the glossary.
2. In the absence of reliable information we exclude search costs.
3. The specification of the rate of return on forgone investments is always debatable. A higher (lower) required rate will increase (decrease) the user cost of housing, all other things being equal.
4. Brown et al. (2011) also consider property owners who earn average weekly earnings and property owners with no debt. They find that the user cost is correlated highly across the various ownership categories. Typically, owner-occupiers who have a mortgage and who earn average weekly earnings have the highest user cost, while owner-occupiers without a mortgage and who earn twice the average weekly earnings have the lowest user cost. The various categories of investors fall between these two.
5. The plots for the corresponding investors are very similar. Differences between user costs of owner-occupiers and investors are discussed later.
6. Averaged over 20 quarters to match the user cost calculation.
7. The horizontal axis in Figure 5 indicates the start date of each five-year user cost and rate of appreciation and, for other uses, because both are meant to reflect forward-looking values. Of course, the mid-point of these calculations is 2½ years later and, for other uses, it may be appropriate to change the horizontal axis by shifting it 2½ years to the right.
8. They describe it as a partial test because they take the property prices as given. That is, no attempt was made to model the effect of the tax changes on the prices themselves.
9. Of course, an even greater distortion is the exemption of owner-occupied housing from CGT; the exemption is effectively a discount of 100 per cent.

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