

HOUSING LEVERAGE AND THE CAPITAL GAINS TAX DISCOUNT

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Recent e61 work describes three economic distortions of the capital gains tax (CGT) discount, related to inflation, leverage and timing (Dwyer et al., 2026). This note analyses the prevalence of leverage distortions using data on housing investments.

Our data cover the individual rental income and capital gains returns for 900 000 investments held over 2008-25. Simulations on these data show how and why the CGT discount encourages investors to inefficiently expand investments via borrowing. Ultimately, the discount treats capital gains and interest expenses asymmetrically, which means that investors can borrow to turn a loss-making investment into a positive after-tax return.

- For typical investors, the tax rate on overall housing returns declines with loan-to-valuation ratios (LVRs). This occurs because the tax paid on capital gains is less than the tax deductions on the higher interest costs.
- The payoff to leverage can be gauged by whether the overall rate of return before funding costs – adjusting rental income and capital gains for inflation – exceeds the across-time average mortgage interest rate.
- The data show that the CGT discount, combined with the top marginal tax rate, converted a negative before-tax payoff to leverage to a positive after-tax payoff for about 5% of all housing investments.

When leverage lowers tax rates, and can change pre-tax losses into gains, individuals are incentivised to expand their holdings of capital-gains generating assets. This most likely increases the price of assets like housing, and pushes households into a less diversified and more highly leveraged portfolio than they would choose in the absence of the tax advantage.

A reduction in the capital gain discount or the introduction of *ringfencing* to deny interest deductions from other non-capital income would both partially address this issue. However, other alternatives exist that would remove this incentive to excessively borrow entirely, while also sustaining government revenue and improving the equitability of tax treatment. For example, Dwyer et al. (2026) outlines how this can be achieved with a cost-base adjustment for both revenue and interest expenses.

The capital gains tax (CGT) discount allows investors to raise their returns by taking on more debt. Generally, an increase in leverage generates more exposure to capital gains, at the cost of more interest. The discount means that the capital gains are only partially taxed, while the interest costs receive a full tax deduction. This wedge – between the tax on asset-side gains, and the tax deduction on liability-side losses – generates advantages to the investor of expanding their balance sheet.

We demonstrate this channel using microdata on 900 000 housing investments held over the last two decades. The data, from PropTrack, contain purchase and sale prices for all housing investments bought from mid 2007 and sold by mid 2025. The data also contain rent levels upon tenancy changes, which we fill in between tenancy changes using ABS rent inflation data. With calibrated assumptions about investment maintenance costs, the data provide the full before-tax returns profile for each investment, abstracting from interest costs. To model different levels of leverage – represented as loan-to-valuation ratios (LVRs) – we calculate interest costs by multiplying the assumed debt levels by mortgage rates from RBA data.

To understand how leverage interacts with the tax system, we simulate the full distribution of returns under different tax settings and levels of investor leverage. The results provide before-tax returns and their composition for every investment, to which we can apply different tax settings to understand the implications for after-tax returns. This complements algebraic results in previous work (e.g. Gillitzer, 2025; Dwyer et al., 2026), and the application to data also demonstrates how actual housing market conditions over the last two decades have interacted with the tax system to shape investor incentives.

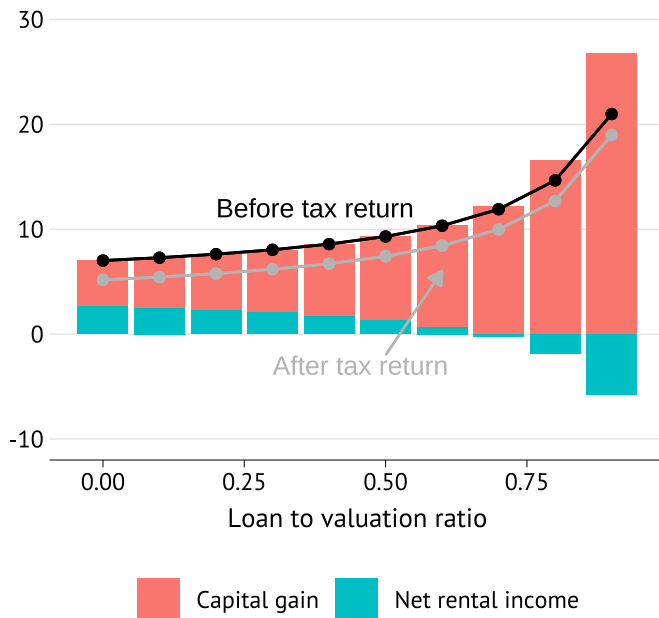
Figure 1 illustrates how the current tax system allows investors to lower their tax rate by lifting leverage. These simulations hold the real dollar values of capital gains and rental income constant, at the actual levels observed over 2008 to 2025, across different simulated LVRs. The main driver of patterns is the change in interest costs. Panel A illustrates that as LVRs rise and equity funding declines, net rental income (net of interest and other costs) falls relative to equity and becomes negative. If the investor has other taxable income, they become negatively geared at an LVR of around 0.7.

Figure 1

Tax and real returns under the current tax system*

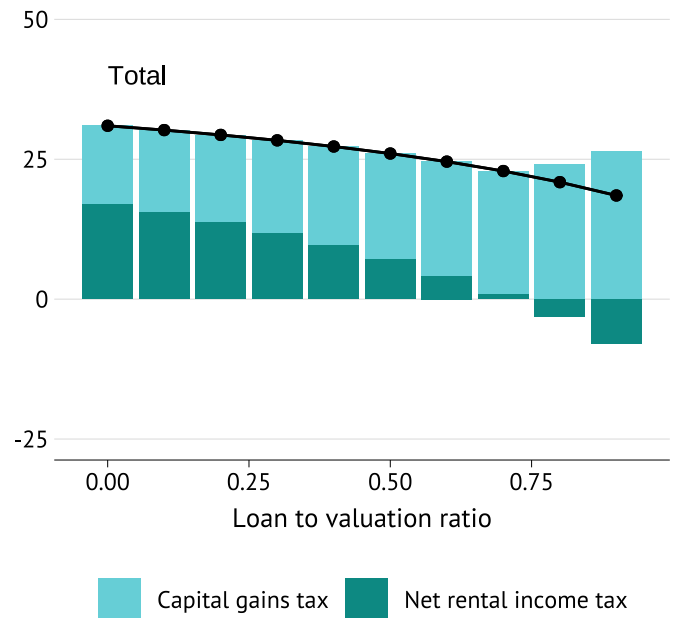
A. Housing returns components

Annualised % of equity



B. Tax on housing returns

% of returns



* Averaged across a sample of median non-loss making investors with interest-only mortgages. Investors are assumed to be at the 45% marginal tax rate and capital loss tax offsets are assumed to be fully realised. All cashflows inflation-adjusted to 2025 dollars before returns and rates are calculated.

Panel B shows how this lowers the overall tax rate via the mechanism described above. As the share of returns contributed by capital gains rises, tax on returns for these particular investors falls from 31% at no leverage to 19% at an LVR of 0.9. The total value of returns declines due to rising interest costs, which is why CGT rises as a percentage of returns. The tax rate falls because the rate of tax deduction for the rising interest costs is higher than the rate of tax paid on capital gains.¹

Next we demonstrate the leverage incentive by comparing the 'economic profitability' of past investments with their after-tax profitability. The distribution of outcomes from past investments tells us about the incentives faced by those investors, who made their decisions by anticipating the returns represented by that distribution. We define an investment as economically profitable if its before-tax rate of return, excluding interest costs, exceeded its mortgage rate. When investments are economically profitable, their inherent characteristics justify more investment via more borrowing. The quantity of economically profitable investments represents what investor incentives would have been without any tax distortions, and the quantity of investments that were profitable *after tax* represents the incentives actually faced.

The main challenges in gauging economic profitability are measuring and combining the time paths of mortgage rates and rental income, and appropriately accounting for inflation when combining the income and cost cashflows with capital gains. This is all achieved by the simulations described above.² We initially assume that investors have a marginal income tax rate of 45%, and that for tax purposes can fully offset capital losses, which is discussed further below.

1 The ratio of after-tax returns to before-tax returns in panel A does not perfectly align with the tax rate in panel B, because the real returns in panel A are annualised, while panel B is the ratio of real total tax paid to real total returns. The figure only plots non-loss making investors because returns are in the panel B denominator. If returns close to zero were included, the average values would be driven by large outliers.

2 Specifically, we run the simulations with an LVR of 1 and interest-only loans. This is equivalent to calculating the return for just the component that is mortgage funded. It also aligns with the concept of marginal return from expanding the investment via leverage, which is the formal way to measure incentives for leverage (see Appendix A.4). The economic profitability is the before-tax dollar gain over the purchase value, and the after-tax profitability is the same but with tax subtracted from the dollar gain.

The results show that of 900 000 investments in the sample, 46 000 were economically *unprofitable* but after-tax profitable due to the CGT discount (Table 1). The CGT discount reduced the probability of being economically unprofitable from 40.2% to 35.1%, a reduction of 5.1 percentage points or 13%. In other words, the discount produced a large increase in the likelihood that taking on more leverage would pay off.

Table 1: Tax impact on economic profitability

	Current tax system		Without CGT discount	
	Count	Share (%)	Count	Share (%)
Profitable before and after tax	537 786	59.7	538 163	59.7
Losses before and after tax	316 432	35.1	362 531	40.3
Tax turned loss into profit	46 099	5.1	0	0.0
Tax turned profit into loss	377	0.0	0	0.0
Total	900 694	100	900 694	100

Appendices A.5 and A.6 report different variants of this exercise:

- For an investor at a 30% marginal tax rate, the CGT discount still converts economic losses to profits for a large proportion of investments (2.9%, see Table A.1 column 2). The effect works the same way, but is scaled down because a lower tax rate brings before and after tax returns closer together.
- For an investor at a 45% tax rate but that cannot offset any capital losses, the results are almost the same as in Table 1 (see Table A.1 column 4). When nominal capital losses occur they tend to be relatively small, so the CGT discount has little effect on these investors.
- The exercise above excludes stamp duty, to focus on the incentives generated by the income tax system. When stamp duty is considered together with income tax, the perverse incentive for leverage generated by the tax system is partially offset but still present (Appendix A.6).

An ILT-neutral tax system

As part of the Senate inquiry into the CGT discount, e61 proposed an ILT-neutral (inflation, leverage, timing neutral) design for CGT (Dwyer et al., 2026). The primary purpose of the current 50% CGT discount is to avoid taxing the component of capital gains that is due to inflation, as this component does not represent any real gain to the investor. The ILT-neutral CGT achieves this more directly, by tying the CGT deduction to the inflation rate. Instead of a percentage-based discount, CGT has a deduction that equals the purchase price times cumulative CPI inflation from purchase to sale. The debt side has a similar adjustment, so that only interest costs that exceed CPI inflation on the debt can be deducted from taxable income. On net, the only nominal returns that are taxed are returns beyond what the equity would have grown at purely through inflation.

A key benefit of the ILT-neutral system is that it does not incentivise investors to take on leverage. Figure 2 demonstrates this by repeating the simulations with ILT-neutral taxes. Before-tax returns and their composition are the same values as in Figure 1. However, the overall tax rate now rises with LVRs (panel B), and investors' after-tax returns rise more slowly than before-tax returns (panel A).³

A clearer indication of leverage neutrality is that the ILT-neutral system does not convert economic losses into after-tax profits. There are no investments that the tax makes profitable, or vice versa (Table 2). As shown in previous e61 work, switching to the ILT-neutral system is likely to maintain or lift tax revenue (Dwyer et al., 2026), and would more accurately and equitably compensate asset holders for the inflation-driven losses that the CGT discount is intended to address (Brennan et al., 2026). The result here additionally shows that it achieves similar leverage neutrality to removing the discount altogether (see Table 1).

The leverage-neutrality result is due to symmetry of the tax treatment across the asset and debt sides; in other words, the tax affects financing costs and asset-side returns equally. Appendix Figure A.1 demonstrates the effect of the current and

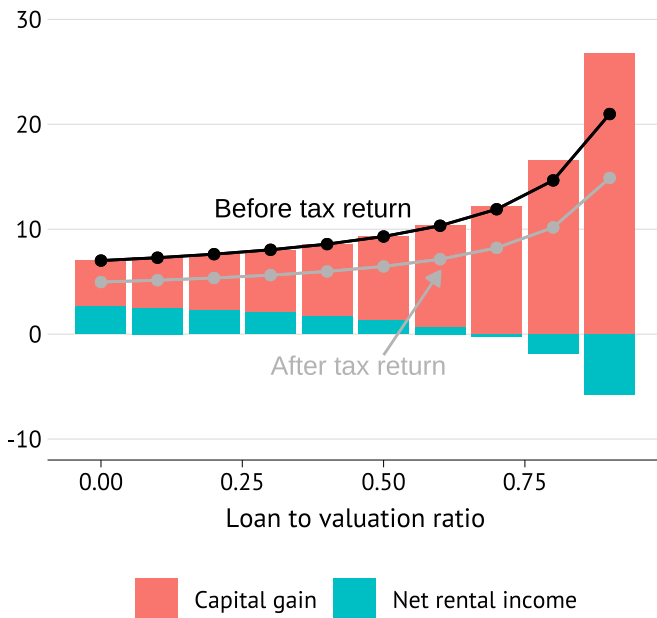
³ The appendix shows that whether return on equity rises with leverage depends on several factors, including the price growth and rental yields for those investments. The slope of the after-tax return in Figure 2 therefore does not measure leverage neutrality; it just helps to illustrate how tax rates decline with LVRs.

Figure 2

Tax and real returns under the ILT-neutral system*

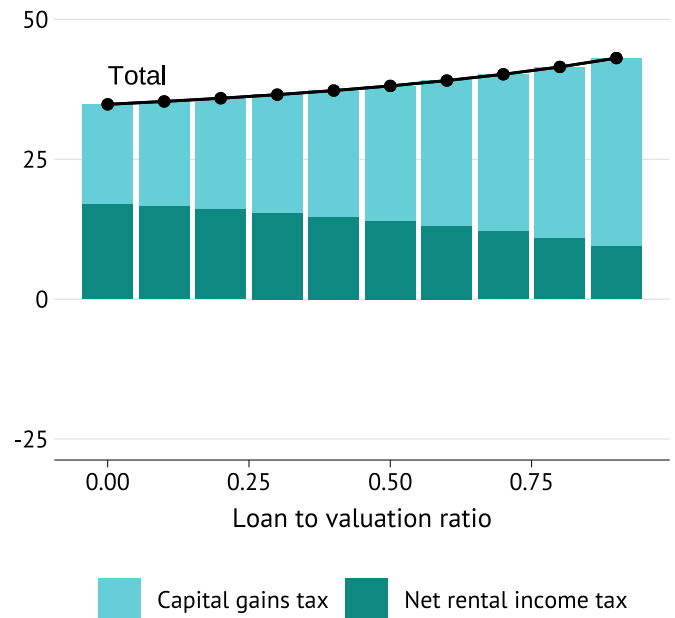
A. Housing returns components

Annualised % of equity



B. Tax on housing returns

% of returns



* Averaged across a sample of median non-loss making investors with interest-only mortgages. Investors are assumed to be at the 45% marginal tax rate and capital loss tax offsets are assumed to be fully realised. All cashflows inflation-adjusted to 2025 dollars before returns and rates are calculated.

Table 2: Tax impact on economic profitability under an ILT-neutral system

	Count	Share (%)
Profitable before and after tax	538 163	59.7
Losses before and after tax	362 531	40.3
Tax turned loss into profit	0	0.0
Tax turned profit into loss	0	0.0
Total	900 694	100

ILT-neutral tax systems on returns more generally. The current tax system has many investments in the top-left quadrant, while the ILT-neutral system has none. This reflects the investments switching from economic (before tax) losses to after-tax profits in Table 1 and 2. More generally, tax in the ILT-neutral system only ever brings returns closer to zero, equally affecting the negative and positive components of each return. The current tax system, on the other hand, lifts all returns that are above roughly -2% before tax, because it attenuates positive components of these returns (capital gains) less than negative components (interest costs).

Discussion

An income tax system that incentivises leverage and portfolio expansion is likely to cause higher asset prices. While this is true for all investment classes subject to the CGT discount, any effect is likely to be largest in the housing market due to its unique characteristics. Household investors can typically borrow at standard mortgage rates up to relatively high LVRs, but banks tend not to lend to household investors at mortgage-like rates to fund other leveraged investments like shares. In other financial markets, leveraged investments are commonly held by companies rather than households, so the corporate tax system defines the incentives.

The CGT discount incentivises investor leverage because it shifts up the distribution of potential returns relative to borrowing costs. The exercises above demonstrate this shift by showing that, for a large proportion of past investments, returns exceeded borrowing costs only because of the CGT discount. This likely lifted housing prices, but how much is unclear. Like other asset markets, the sensitivity of prices to demand depends on how other buyers and sellers react when prices change. Still, the leverage incentive is problematic regardless of price effects. It would have led investors to take riskier housing positions than otherwise, and likely diverted funds from other economically profitable investments into housing.

Currently there are two prominent proposals for changing CGT. One is to reduce the percentage-based discount to 33%. The other is to ringfence rental property losses from other taxable income while maintaining some level of CGT discount (e.g. Daley et al., 2016), often referred to as removing negative gearing. Both of these would reduce the incentive to borrow more to finance housing investment, and insofar as this is the focus of reform, they could be an improvement on current settings.

However, both proposals still treat the income earned and the expenses used to generate that income asymmetrically. The 33% discount provides the same asymmetry as the 50% discount, but reduces its scale.

Ringfencing is closer to leverage neutral. It reduces the value to the investor of interest-related tax deductions, because losses on net rental income cannot be deducted from other income tax. This can even the balance with the reduction in tax produced by the CGT discount, and is likely to make the overall tax affect gains and losses more equally. However, this is an indirect approach to addressing the inherent asymmetry of the CGT discount, so the proposal still affects incentives to leverage.⁴

Ultimately, the ability to deduct mortgage interest from other income tax – negative gearing – is only an issue because of the CGT discount. Investors get this deduction only if their rental income makes a loss, and the deduction itself never turns the loss into a gain, so, absent other factors, it never makes the investor benefit from losses. The other factor, however, is that the CGT discount allows these losses to be accompanied by a larger gain in the future. By leveraging up and taking on higher interest costs, the investor can get a tax deduction that is larger than the (discounted) tax paid on the capital gains.

More broadly, both proposals are imperfect plasters on a current inconsistent system for the taxation of savings. As noted in Varela et al. (2020), the rates of tax on savings vary significantly; for example, returns from bank deposits are highly over-taxed relative to other income. When all taxes are accounted for, both Varela et al. (2020) and OECD (2022) indicate that the marginal rental property does not appear to be taxed less than other assets. However, as we show here, the current structure of our tax on investments artificially incentivises borrowing too much to invest in housing. If capital income and its related expenses were treated symmetrically, this inconsistency would be removed.

There are good reasons why the component of capital income that represents inflation should not be taxed. For this reason, the Henry Tax Review recommended a discount for all capital income and expenses (Australia's Future Tax System Review Panel, 2010), not just capital gains income as under the current system. Nonetheless, as highlighted by previous e61 work, such a discount does not approximate well real income when returns vary significantly between assets and taxpayers (Brennan et al., 2026). For this reason, the ILT-neutral cost-base adjustment discussed here and in Dwyer et al. (2026) provides the most appropriate way of neutralising the tax incentive for leverage, while treating capital income consistently both between assets and with other forms of income.

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⁴ It is indirect because interest costs can still be deducted from rental income at the non-discounted rate.

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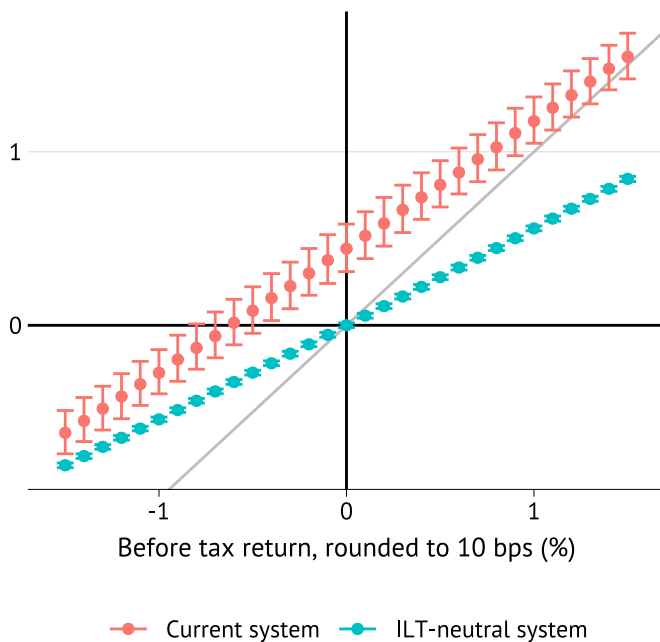
A.1. Additional graphs

Figure A.1

Before and after tax returns under the current system*

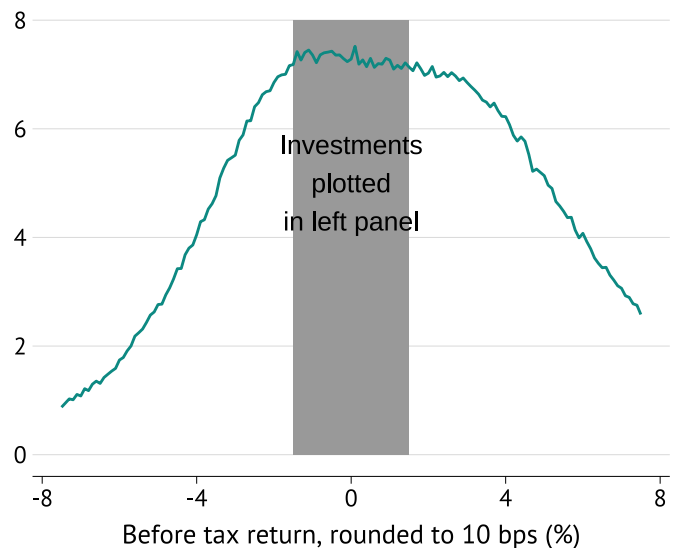
Before and after tax comparison

Median and interquartile range
After tax return (%)



Distribution of before tax returns

All investments held 2008-25
000s of investments



* Left plot focuses on |returns| < 1.5% for illustrative purposes. All returns are real and annualised. Returns are defined as income less costs, divided by purchase price, before and after tax, under the assumption of 100% debt funding at market mortgage rates.

A.2. Income and returns definitions

This appendix defines the returns concepts used in the note. Unless stated otherwise, all values are measured in June 2025 dollars, inflation adjusted from the month the income or payment was experienced. The concepts are shown for an interest only loan. For a principal and interest loan, the mortgage payment multiplier defined below (m) can be multiplied by an appropriate constant that represents the loan amortisation throughout the period of investment holding.

Net rental income (NIR) is

$$(1) \quad NIR = \underbrace{(1 - c^r)r - c^n}_{\text{rent less costs}} - \underbrace{c^m p_0 (t_1 - t_0)}_{\text{maintenance}} - \underbrace{mbp_0^N}_{\text{interest}}$$

where r is the sum of all rental payments, c^r is the rental agent fee rate, c^n is the sum of all tenancy changeover costs, p_0 is the (real) purchase price, c^m is maintenance costs as an annual proportion of the purchase price, $t_1 - t_0$ is the years between

purchase and sale, p_0^N is the nominal purchase price, b is the share of the initial purchase that is funded with debt, and m is a multiplier that converts the (real) value of initial debt funding to the sum of all mortgage payments on the loan.

That is, m as a function of the CPI index at time (q_t) and nominal mortgage rates (i) is

$$m = \sum_{t=t_0}^{t_1} \frac{i_t \times q_{June2025}}{q_t}.$$

The real capital gain (CG) is the nominal capital gain inflation-adjusted from the quarter of the sale

$$(2) \quad CG = ((1 - c^s)p_1^N - p_0^N) \frac{q_{June2025}}{q_1},$$

where p_1^N is the nominal sale price, and c^s is the cost of selling as a proportion of the price (e.g. an agent commission).

Before tax return on equity (GROE), annualised, is defined as

$$(3) \quad GROE = \left(1 + \frac{NIR + CG}{(1 - b)p_0} \right)^{1/(t_1 - t_0)} - 1$$

Under the current system, denoted by superscript C, there is a percentage-based capital gains tax discount. Define the discount as δ . Income tax is

$$(4) \quad IT^C = \tau NIR,$$

where τ is the income tax rate, assumed constant for simplicity. If a progressive marginal tax rate is applied, τ would be the appropriate non-linear function ($\tau(NIR)$) rather than a constant.

Capital gains tax is

$$(5) \quad CGT^C = (1 - \delta)\tau CG.$$

Note that the stamp duty deduction from capital gains tax is treated as a reduction of stamp duty rather than of capital gains tax, to focus here only on tax on income. So stamp duty does not enter any of these terms.

After tax return on equity under the current system (ROE^C) is

$$(6) \quad ROE^C = \left(1 + \frac{(1 - \tau)(NIR + CG) + \delta\tau CG}{(1 - b)p_0} \right)^{1/(t_1 - t_0)} - 1$$

A.3. Modelling assumptions and data

This appendix describes how the concepts above are applied to data, including any assumptions made in doing so.

Inflation adjustments (q_t) use ABS data on capital-city level CPI (which we use for the state the capital is in). The inflation data are quarterly, which we adjust to monthly by assuming a constant monthly inflation rate within the quarter. Costs and income are inflation adjusted based on the quarter they were experienced in. One exception is that, for coding practicality, income tax payments are adjusted from the month the taxed income or costs were experienced, rather than the end of the tax year, which will on average be off by about half a year.

Rental income (r) is based on PropTrack data on rent levels upon tenancy changes, which captures most rentals in Australia from mid 2007 to mid 2025. We consider housing to be held by an investor if there is a tenancy change between purchase

and sale. (Brennan et al. (2026) uses all dwellings for which a tenancy change is ever observed in the rentals data, which is why that sample is larger.) To fill in rent levels between tenancy changes, we assume that rent changes happen annually after the last tenancy change. When there is a subsequent tenancy change, the annual rent increases are a linear interpolation between the two observations. Before the first and after the last observed tenancy changes for a given dwelling, we assume that rents change by annual rent inflation, using capital city-level rent price index data from ABS.

Purchase and sale prices (p_0^N and p_1^N) are directly observed in the PropTrack transactions data.

Mortgage interest rates (i_t) are from RBA Table F5 Indicator Lending Rates, which provides monthly Australia-wide interest rates for various types of loans. We use the monthly series FILRHLBVDI on discounted investor mortgage rates, and before the series begins in August 2015, fill it back with the corresponding series FILRHLBVD for owner occupiers. This is appropriate because prior to that time, banks typically charged the same mortgage rate on both products (Reserve Bank of Australia, 2018).

Other ownership costs (c^f , c^n , c^m and c^s) are calibrated partly from the analysis in Fox and Tulip (2014) and partly based on knowledge of the real-estate sector. Nominal maintenance costs (c^m) are assumed to be 1.5% of the nominal purchase price each year (incurred monthly), as in Fox and Tulip (2014), and to grow by inflation. After converting maintenance costs to real values, this is the same as 1.5% per year of the real purchase price. The rental agent fee (c^f) is set to 5.5%, consistent with fee rates observed in Sydney. The cost of changing tenants c^n is assumed to one week's rent, incurred at the time of the change. The sale costs (c^s) are set to 2%, below the 3% value assumed by Fox and Tulip (2014), but aligned with 1.5% commission rates observed in Sydney, plus an assumed 0.5% of other costs (as in Fox and Tulip, 2014).

Note that changes to these settings would not be expected to attenuate the conclusions in this note. For example, a higher sale cost would shift the distribution in the right panel of Figure A.1 left, but have little effect on the statistics in the right panel. The proportions switching from losses to profits in Tables 1 and 2 are based on the top-left quadrant of the left panel of Figure A.1, weighted by the distribution in the right panel for those before-tax returns (i.e. between around -0.5% and 0%). As the figure indicates, a modest left-shift of the distribution would have little effect on the weighting.

The income tax rate (τ) is set at 45%, being the current top marginal income tax rate in Australia. We assume that tax offsets from capital losses have their full value to the investor.

A.4. Leverage incentives

The incentive for leverage can be thought of as whether there is a benefit of expanding the investment holding via additional debt funding.

To see how *ROE* is affected by debt b , consider the derivative of pre-annualised *ROE*. By treating terms as constants rather than as functions of b , those terms are implicitly assumed to be not affected by leverage. The most likely violation is the assumption that interest costs m are constant in b . In reality, mortgage rates tend to be flat below $b = 0.6$ (i.e. an LVR of 60%), then step up by 5-10 basis points at $b = 0.6$ and $b = 0.7$, and step up more substantially at $b = 0.8$, when other financing costs such as lender's mortgage insurance can also be introduced.

$$(7) \quad \frac{d}{db} \frac{(1 - \tau)(NIR + CG) + \delta\tau CG}{(1 - b)p_0} = \frac{(1 - \tau)(CG + NIR - (1 - b)mp_0^N) + \delta\tau CG}{(1 - b)^2 p_0}.$$

A risk-neutral investor has incentive to leverage if and only if this expression is positive.

In equation (7), note that *NIR* includes the component $-mbp_0^N$, so b drops out of the overall numerator expression $CG + NIR - (1 - b)mp_0^N$. This expression can be thought of as what total income would be (i.e. $(1 - \tau)(NIR + CG) + \delta\tau CG$) if the investment was 100% debt funded (i.e. $b = 1$). When the marginal decision is whether to fund more of the investment by taking on more debt, then the marginal investment is 100% debt funded, and this is the appropriate income concept to consider.

This demonstrates two ways that incentive to leverage can arise in the current tax system:

1. The real dollar gain from the marginal debt-funded investment is positive (and capital gains are nonnegative so $\delta\tau CG \geq 0$):

$$CG + NIR - (1 - b)mp_0^N > 0.$$

2. The real dollar gain is negative, but capital gains are positive and the CGT discount more than offsets losses.

$$0 > (1 - \tau) (CG + NIR - (1 - b)mp_0^N) > -\delta\tau CG$$

The second case highlights how the capital gains tax discount generates perverse incentives for leverage. Even if dollar gains are negative, the investor can turn ROE positive by leveraging up and exploiting the discount. This case represents the investments turning from loss to profit in Table 1.

A.4.1 ILT-neutral tax

Under this proposal, the asset and debt both have a deduction for inflation, and there is no percentage based discount.

$$(8) \quad IT^I = \tau(NIR - ibp_0^N)$$

Here, i is a multiplier similar to m , but based on the inflation rate rather than the mortgage rate.

Capital gains tax is

$$(9) \quad CGT^I = \tau(CG - ip_0^N).$$

Instead of the CGT discount, capital gains get a deduction calculated to match the asset-side multiplier after accounting for inflation.

Return on equity is

$$(10) \quad ROE^I = \left(1 + \frac{NIR - \tau(NIR - ibp_0^N) + CG - \tau(CG - ip_0^N)}{(1 - b)p_0} \right)^{1/(t_1 - t_0)} - 1$$

The numerator of the pre-annualised ROE is equal to

$$(1 - \tau)(NIR + CG) - \tau ip_0^N(1 - b).$$

Note that the debt and asset sides of the inflation adjustment, i.e. on the interest costs and capital gains, offset each other, leaving an inflation-adjustment on the value of equity ($ip_0^N(1 - b)$). Pre-annualised ROE is then

$$\frac{(1 - \tau)(NIR + CG)}{(1 - b)p_0} - \frac{\tau ip_0^N}{p_0}$$

and the derivative with respect to b is

$$\frac{(1 - \tau)(CG + NIR - (1 - b)mp_0^N)}{(1 - b)^2 p_0}.$$

This means that payoffs to leverage arise only in case 1 from the previous section, which are situations in which the payoff arises naturally and aligns with the economic environment. Case 2 does not produce a payoff to leverage under the ILT-neutral system.

A.5. Other income assumptions about investors

The analysis in the body of this note applies to investors with a marginal tax rate of 45%, and assumes that the tax offsets that investors get from capital losses are worth the full value of the offset to the investor. Here we repeat the exercises changing these assumptions.

First, we model the results for an investor with the marginal tax rates faced currently by an investor with non-housing income of \$100 000. All rental income has a tax rate of 30%, and capital gains, upon realisation, can push the investor into higher tax brackets (37% for gains above \$35 000 then 45% for gains above \$90 000). Lower tax rates do not change the asymmetry that generates the leverage incentive, but make after-tax returns closer to before-tax returns. The fact that capital gains can now be pushed into higher tax rates than for rental income may, however, offset some of the asymmetry.

The leverage incentive is reduced but still substantial, with 2.9% of investments turning from economically unprofitable to profitable after tax (Table A.1, columns 1-2). The ratio of this quantity relative to investments flipping the other way (i.e. the fourth row) is similar to the ratio at the higher tax rate.

Second, we assume that capital loss offsets are worth nothing to the investor. When the investor has a capital loss, tax is calculated as though the capital gain was exactly zero (Table A.1, columns 3-4). The results are little changed.

Table A.1: Tax impact on economic profitability under the current system with alternative tax settings

	Income of \$100 000		No capital loss offset	
	Count	Share (%)	Count	Share (%)
Profitable before and after tax	537 946	59.7	537 508	59.7
Losses before and after tax	336 800	37.4	316 432	35.1
Tax turned loss into profit	25 731	2.9	46 099	5.1
Tax turned profit into loss	217	0.0	655	0.1
Total	900 694	100	900 694	100

A.6. Stamp duty

In this note we focus on income tax, and consider stamp duty to be outside of the income tax system. Here we repeat the exercises for the current tax system with stamp duty included. Investors can use stamp duty as a capital gains tax deduction, so we report the effect of stamp duty as its effect net of this deduction (rather than interpreting the stamp duty deduction as lowering the CGT component). For return-on-equity calculations, we also increase equity by the initial stamp duty paid, acknowledging that it adds to the savings required to purchase the investment.

Figure A.2 shows that the overall tax rate is still declining with leverage when stamp duty is included.

Next we analyse economic profitability after factoring in stamp duty. The effect of stamp duty on annualised returns is heavily decreasing in the length of the investment holding, because it is only paid once, which introduces censoring bias into the exercise. The bias occurs because we only observe investments that were bought and sold within the 2008-25 window, which means that the observed investments have shorter holdings on average than the true distribution. For example, of all investments bought in 2018, we only observe those that are held for seven or less years. To deal with this bias, we run the exercise only for investments bought in the first year or sold in the last year of the sample. This will still be subject to censoring bias, but substantially less so, because it censors the distribution of holdings only to 18 years or less.

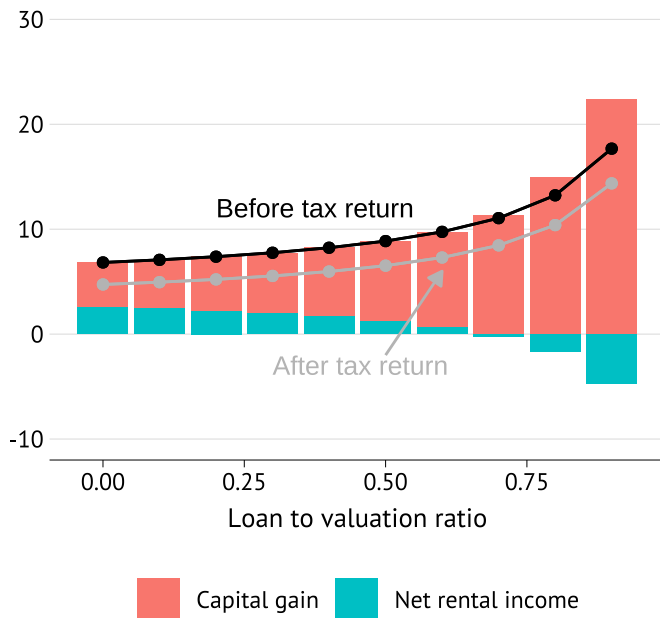
The results are in Table A.2. Columns 1-2 lump stamp duty in with income tax in the before and after tax comparisons. These results get closest to analysing the incentives of the housing tax system as a whole, although admittedly still exclude council taxes, which could work in the other direction to stamp duty. These results gauge how tax distorts outcomes relative to true economic profitability. Columns 3-4 include stamp duty in the before-tax profitability calculations, which represents the question of how income tax affects incentives given the presence of stamp duty. These results gauge how incentives would change if the CGT discount was removed but stamp duty was kept. Columns 5-6 repeat the same exercise in the body of the note, but on the restricted subsample, to show that censoring bias does not appear to be exaggerating those results.

Figure A.2

Tax and real returns under the current tax system with stamp duty*

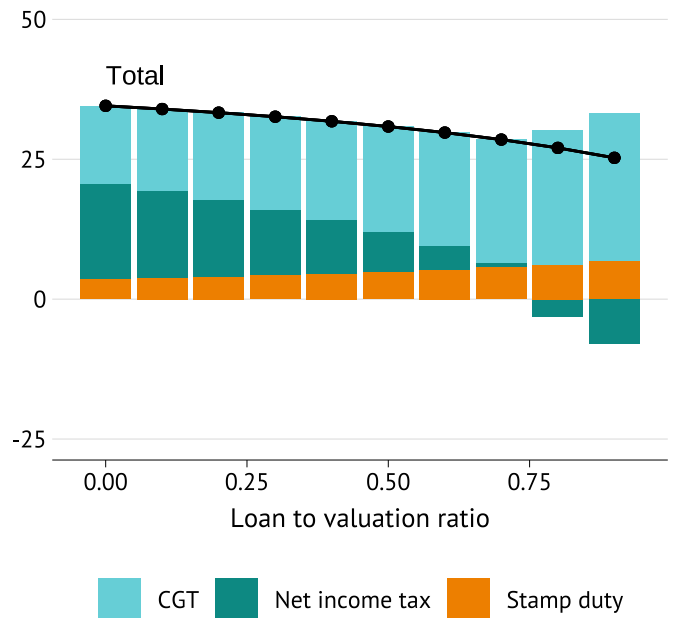
A. Housing returns components

Annualised % of equity



B. Tax on housing returns

% of returns



* Averaged across a sample of median non-loss making investors with interest-only mortgages. Investors are assumed to be at the 45% marginal tax rate and capital loss tax offsets are assumed to be fully realised. All cashflows inflation-adjusted to 2025 dollars before returns and rates are calculated.

Stamp duty partially offsets the distortion from true economic profitability – the proportion of investments that switch from unprofitable to profitable reduces to 2.0% (with 0.4% switching the other direction). This is because it reduces the profitability of investments without providing investors a full tax deduction for any losses it causes. Stamp duty is a deduction from CGT, meaning deductions are only worth the discounted value. The presence of stamp duty alone, however, does not have much effect on how income tax affects incentives. In column 4, the proportion switching from loss to profit is 4.7%, closer to the analysis that excludes stamp duty entirely.

Table A.2: Tax impact on economic profitability under the current system with stamp duty

	Before-after all tax with stamp duty		Before-after income tax with stamp duty		Before-after income tax without stamp duty	
	Count	Share (%)	Count	Share (%)	Count	Share (%)
Profitable before and after tax	112 433	56.1	107 125	53.4	113 130	56.4
Losses before and after tax	83 239	41.5	83 918	41.8	75 358	37.6
Tax turned loss into profit	4 133	2.1	9 441	4.7	12 014	6.0
Tax turned profit into loss	750	0.4	71	0.0	53	0.0
Total	200 555	100	200 555	100	200 555	100

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