Australian Government

National Housing Finance and Investment Corporation

Embargoed until 12.01am AEST Tuesday 20 July 2021

STAMP DUTY REFORM: BENEFITS AND CHALLENGES

July 2021

Executive summary

Property tax reform is gathering momentum. The NSW government recently published a progress paper providing more detail about its reform intentions including the results of its public consultation process. The next step for NSW is to assess feedback on the progress paper and provide an update later in the year. It now joins the ACT as the only two jurisdictions in Australia intent on replacing transfer (stamp) duty with land tax.

Against this backdrop it is timely to take a step back and reassess the economic benefits and challenges of transfer duty reform using the most recently available data[1]. The report also discusses the equity distortions created by transfer duty and why they are an important consideration.

This report highlights the distortions that transfer duty imposes on mobility and prices in the housing market. It also discusses the challenges faced by jurisdictions wanting to phase it out in preference of a broad-based land tax using a model that analyses the link between dwelling prices, the number of transfers and transfer duty revenue.

Key findings

Mobility will increase if transfer duty is reduced or removed.

- Transfer duty imposes a high cost on households that move residence. For example, a household that bought the Sydney's median priced house four times over the past 20 years would have paid more than 10 times the amount of duty than a household making only one purchase at the start of this period.
- Australian jurisdictions are 40% more sensitive to duty than many European OECD countries and would gain substantial benefits from the increase in mobility removal of duty would provide, including more efficient use of housing stock and improved labour productivity.
- Removing transfer duty in favour of a broad-based land tax will likely lift dwelling prices in the short-term as the removal of transfer duty is capitalised into prices. However, if lenders fully capitalise the cost of the replacement land tax into loan serviceability criteria, the price impact from removing duty may be negligible. Data shows dwelling prices and the number of transfers both rose in the ACT during the transition period.

States and territories with the highest effective rate of transfer duty have the most to gain from reform.

- VIC has Australia's largest effective rate of transfer duty. In contrast, the ACT has the lowest effective rate of duty after nearly a decade of transitioning to a broad-based land tax. Consequently, the economic loss from transfer duty in the ACT is the equal lowest of any jurisdiction with the NT.
- Adjustments to transfer duty regimes by the states have not kept pace with rising house prices, resulting in a revenue windfall that is difficult to replace. Surging house price growth without adjusting the duty regime results in stronger revenue growth and a higher effective land tax than necessary. In NSW, a 5% per annum average rise in dwelling prices over 20 years would generate 2.2 times the amount of duty revenue than if prices had risen by only 2% per annum.

Jurisdictions wanting to reform their property tax regime by replacing duty with a broad-based land tax face several challenges.

- The aim of transitioning from transfer duty to land tax is not to increase revenue per se, and this paper demonstrates the transition can be achieved in a revenue neutral way.

[1] The analysis in this paper is primarily focused on residential property.

- A short phase out period costs taxpayers less and provides more certainty about the revenue to be replaced, while a long transition costs taxpayers more with less revenue certainty.
- Home buyers purchasing property just before the reform commences may need to be compensated and this could cause a large fall in revenue.
- Broadening the tax base also means an additional tax burden falls on households who own their home with no mortgage and investors, many of whom probably paid duty many years ago. A broad-based land tax imposes an additional cost on households that on average would be around 75% of current municipal rates. However, this will be offset by the likely positive short-term impact on prices from removing duty.
- Phasing in a broad-based land tax using just new transactions would take on average around 23 years provided all new buyers decided to pay the tax in preference to transfer duty assuming 4.4% of properties turnover each year.

A range of options are available to policy makers to help speed up any transition and to help address equity issues raised as part of the reform.

- A short phase out period can help by limiting the impact of house price growth on the cost of transition. For example, a substitute revenue neutral broad-based land tax would need to be 0.02ppts higher in NSW (0.45%) under a 20-year transition, assuming 5% per annum price growth, compared with a shorter 5-year transition (0.43%).
- Crediting back those households who recently paid duty over at least a 5-year payback period will not result in a cut to the substituted land tax revenue.
- Asset rich and cash poor retirees could be allowed to defer some, or all their land tax liability until the property is sold.
- Retirees and low-income earners could also be paid a rebate on the land tax liability. A similar rebate is already in place to support these cohorts meet municipal rates expenses.
- A progressive replacement land tax could be designed with the distribution of duty in mind when estimating it on the unimproved value of the land.
- The cost to landlords of a new replacement land tax is unlikely to be passed on to tenants, but it may be legislated to make this unlawful during a rental agreement. Property investors typically have a relative short property ownership period compared to owner-occupiers and the additional turnover generated by the removal of transfer duty may disrupt rental agreements and tenure for tenants if some protection is not put in place.

Why we need to rethink transfer duty

This Section explains how transfer duty distorts the housing market and imposes a loss on the broader economy. We also discuss the impost of transfer duty in Australia, make international comparisons and look at the effect of transfer duty on housing demand.

Australia's property taxes go back all the way to 11th-century England, where William the Conqueror used records of land ownership to create his tax base. In the late 17th century, the UK had a window tax well before it introduced an income tax. Eventually, increasing pressure to remove privileges of the aristocracy led to property law reform, including the Property Act of 1845 and the Conveyancing Acts of 1881 and 1882. These Victorian-era tax reforms were the seeds that grew into conveyancing as it exists in Australia.

Once records on conveyancing were established in Australia (1865), introducing a tax on these transactions as a transfer duty was relatively easy.

- Transfer duty can capture a wide range of economic activity, including transactions in property, plant and equipment and insurance.

- Government already had detailed information on the economic activity because documents with details of the asset and its value and entities involved in the transaction required a government stamp to formally approve the transaction.

- Avoidance is difficult because unlike plant and equipment, land is immobile and cannot be moved or varied.

The shortcomings of conveyancing are also well understood.

- **Restricts mobility.** It provides a heavy penalty on household mobility and restricts the ability of households to upsize, downsize and move. The restrictions it places on mobility also reduce labour productivity and add frictions to the labour market. This shortcoming of the tax burden is arguably intergenerational in that mobility is more frequent in those households aged in their 20s and 30s than those in older cohorts.

- **Discourages efficient use of housing stock.** Around 11% of all private dwellings were unoccupied according to the 2016 Census, so replacing duty with a broad-based land tax could lower the cost of moving between properties and encourage these dwellings to be used. Replacing transfer duty with a broad-based land tax could also encourage land zoned for commercial use to be rezoned to residential where the land tax rate is higher on land for commercial use.

- **Large economic cost.** It imposes an economic loss on the housing market that can be large enough to be a significant cost on the broader economy. Modelling undertaken by the Commonwealth Treasury found stamp duties come with some of the highest long-term costs for living standards.[2]

- **Narrow base.** Transfer duty on residential properties contributes around 13% of state and territory tax revenue but is paid by only 4% of households per year. These households are making relatively large contributions to state revenue, while long-term owner-occupier property owners enjoy the same government services but make relatively small contributions.

- **Volatile source of government revenue.** Transfer duty is a relatively volatile source of tax revenue that can make managing government finance difficult. The property market goes through large cyclical swings in both dwelling prices and the number of transfers, and this introduces volatility into government revenue. It could be argued this makes the tax counter-cyclical and, useful in managing property cycles. However, experience shows that it hasn't stopped financial stability concerns in the past and to this extent macro-prudential policy is a much more appropriate policy tool to manage the cycle.

In Australia, transfer duty on residential property is normally paid by the buyer. To highlight the high cost of the tax, we estimate it and compare it to other transaction costs for purchasers of the median property in Sydney.

Transfer duty is around $43,000 or 20% of the upfront cost of the median property purchase (Figure 1).

[2] https://treasury.gov.au/sites/default/files/2019-03/c2015-rethink-dp-TWP_combined-online.pdf

Figure 1: Typical upfront expenses in Sydney property purchase

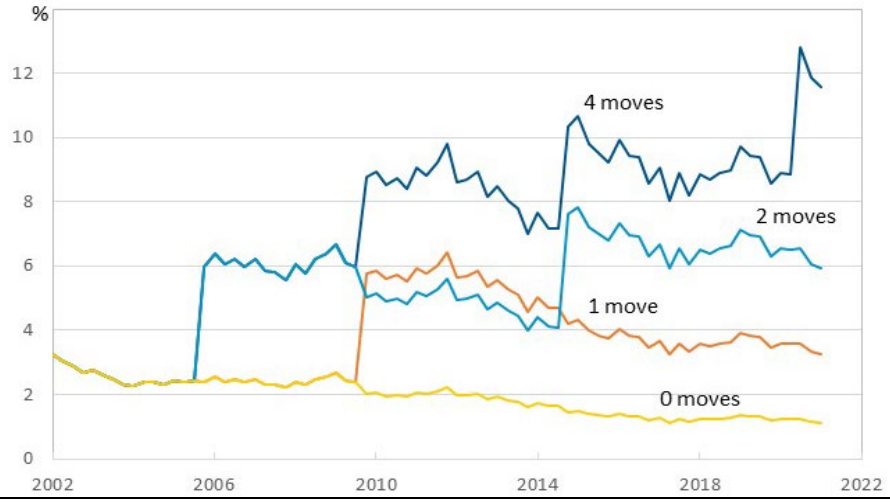
Expense Item	Expense ($)	Percentage (%)
Deposit	152,630	72
Moving Costs	2,025	1
Transfer Duty	42,755	20
Mortgage Insurance	12,170	6
Other	2,734	1
Total	***212,314***	***100***

Source: NHIFIC, ABS, Genworth, Commbank, Westpac Canstar and NAB, NSW State Government Revenue. The deposit assumed is 15% of the purchase price. Price used is the median Sydney house price in Q1 2021 ($1,050,000). The calculation is done for an upgrader and not a first home buyer.

But this relatively large cost of transfer duty in property transactions becomes even more of a drain on household cashflow when a household moves several times. In Sydney, for example, if a household moved four times between 2002 and 2020, the effective transfer duty rate increased from around 3% of the median house price to 13%. The total amount of duty paid by this household would have been $121,500 (Figure 2).

In contrast, the same household remaining in their property bought in 2002 would have seen their effective rate of duty decline to around 1% over the same 20-year period because of price appreciation, after paying an amount of duty paid of $11,900 at the purchase – approximately 10 times less than the household that moved four times, potentially to find work.

Figure 2: Effective transfer duty rate: Sydney median established house price



Source: NHFIC. ABS. The household purchases the median price at each move, so the increase in the median price over the past 20 years lowers the effective rate of duty. For the purposes of this paper, the effective rate is the transfer duty liability divided by the house price.

The state and territory governments collect real estate transfer duty in Australia. They adopt a progressive design with rates of duty increasing from around 3% to 6.5% with increasing property prices (Figure 3).

Appendix A details the transfer duty regime currently being used in each state and territory.

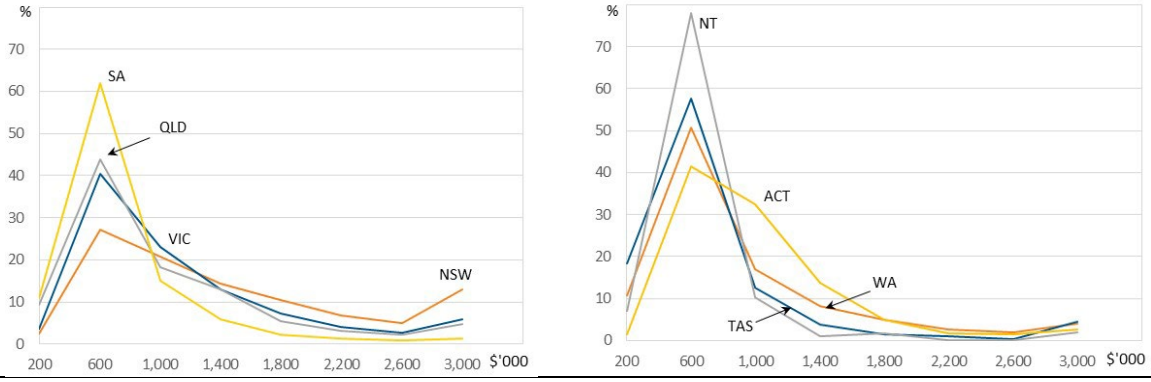
Each price bracket usually has a fixed amount payable and a variable amount that depends on the property price. The two territories have relatively low tax rates for properties valued around $250,000. However, in the NT it reaches 5% at $550,000. After recent changes, Victoria has Australia's highest transfer duty rate. The NT also has a relatively high rate for properties valued at $3,000,000 (5.8%), most of which are likely to be cattle stations.

Figure 3: Effective transfer duty rates by house price*

Source: NHIFIC. *For the purposes of this paper, the effective rate is the transfer duty liability divided by the house price.

The progressive design of transfer duty means that home buyers purchasing relatively expensive properties pay more transfer duty than those purchasing relatively less expensive properties. However, the number of transfers is congested around $600,000 in most jurisdictions, so property owners purchasing property at this price point pay the bulk of transfer duty revenue (Figure 4).

Figure 4: Distribution of transfer duty by dwelling price and jurisdiction (%)



Source: Corelogic. Estimated for the 2016 to 2020 period. Transfer duty revenue paid at each price is calculated using the current transfer duty settings. The contribution to jurisdiction transfer duty is estimated by multiplying the duty payable at each price by the number of transfers in a $400,000 range around the price point. The duty payable on properties valued above $3,000,000 are estimated using a property value of $3,000,000 and the number of transfers on properties valued above $2,800,000. NHIFIC.

International comparisons

Flat rates are used in many countries, but a progressive threshold system is also common.

Most US states have transfer duty, but the rate is significantly less than in Australia or many European countries (Figure 5). Some US Counties also impose transfer duty, but even with this additional amount, the total effective rate is generally well below that of the Australian state and territories. The Australian rate of duty is around the average of our sample of jurisdictions.

Another feature of the US system is that the tax liability can be negotiated between the buyer and vendor. In some states the liability is with the vendor.

The Canadian provinces generally have lower rates of duty than Australia, but like Australia, duty is paid by the buyer. In New Zealand, there is no transfer duty and at the other end of the spectrum the top end of the London market pays 12%. The top end of the Andalucia (Southern Spain) market pays a relatively large transfer duty (10%).

Figure 5: International transfer duty

Jurisdiction	Payee	Tax	Threshold	Rate (%)
United States				
California	Seller but can negotiate.	Tax deductable from capital gain liability	Flat rate	0.11
New York State	Seller. If seller is exempt, then buyer.		< $US3,000,000	0.4
			>$US3,000,000	0.65
NYC			<$US500,000	1
			>$US500,000	1.425
Ohio		Local govt can add extra tax up to 0.3%		0.1
Florida			Flat rate	0.7
Chicago	Sellers (71% and Buyer (29%)	Local govt can add extra tax up to 0.5%		0.1
Texas	Nil			
Argentina	Seller (only sellers with no income tax liability)			1.5
Canada	Buyer			
British Columbia			<$C 200,000	1.0
			$C200,001 - $C2,000,000	2.0
			>$C2,000,001	3.0
Ontario			$C55,000 - $C250,000	1.0
			$C250001 - $C400,000	1.5
			$C400,001 - $C2,000,000	2.0
			>$C2,000,001	2.5
UK (London)			£0 - £125,000	Nil
			£125,001 - £250,000	2.0
			£250,001 - £925,000	5.0
			£925,001 - £1,500,000	10.0
			> £1,500,000	12.0
Hungary	Buyer		<HUF1,000,000,000	4
			>HUF1,000,000,000	Additional 2.0
Sweden				1.0
Germany				
Bavaria	Buyer		Flat rate	3.5
Berlin	Buyer		Flat rate	6.0
Saarland	Buyer		Flat rate	6.5
Norway	Buyer	National		2.5
New Zealand	Nil			
Spain		Properties sold for the first time are instead subject to 10% VAT across the country (except the Canaries with 4.5% IGIC), plus 0.4-0.75% stamp duty tax.		
Madrid	Buyer		Flat rate	6.0
Andalucía	Buyer		<€400,000	8.0
			€401,000 - €700,000	9.0
			> €701,000	10.0
The Netherlands	Buyer		Flat rate	2.0

Source: NHFIC

Transfer duty in theory

Two frameworks are available to analyse the impost of duty:

- **Partial equilibrium analysis** – looks purely at the impact of transfer duty on the housing market. It doesn't consider the impacts of duty on the broader economy, particularly wages growth, migration, employment, investment and consumer spending.

- **General equilibrium analysis** – attempts to model these linkages and determine the impact of the tax on the broader economy.

The analysis in this paper adopts a partial equilibrium approach.

The burden of duty

At first glance, it is not obvious whether the buyer or seller take the burden of the tax.

If vendors reduce the supply of properties on the market in response to an increase in duty more than buyer demand declines, then the burden of the tax falls on buyers. However, if buyer demand is more responsive than vendor supply when duty is increased, then the burden of duty falls on vendors. Regardless of whether a buyer or vendor has the burden, higher taxes increase the 'tax wedge' between buyers and sellers and reduce the volume of transactions. Appendix D discusses in more detail the elasticity of supply.

In Australia, buyers pay the tax, but pay less for a property than they would if the tax were not in place. However, this also means vendors have the burden of receiving a lower price for their property that they would receive without the tax. In countries such as the US, the tax liability can be negotiated between the buyer and the vendor and the burden is more evenly shared.

A transfer duty on the buyer of the property shifts the demand curve to the left and lowers the price received by the vendor. It also reduces the number of transfers required to clear the market at that price (Figure 3).

In a study of the Australian housing market, Davidoff and Leigh (2013)[3] found the burden fell on the vendor because duty lowered house prices and reduced turnover causing the demand curve to shift to the left. More specifically, they found a 10% increase in transfer duty lowered house prices by 4-5%. They also found that duty lowers turnover, with a 10% increase in transfer duty lowering the number of transfers by 3% in the first year and a further 6% if sustained over a three-year period.

Davidoff and Leigh (2013) also analysed the impact of the duty on the housing market by looking at the impact on prices and transfers near state borders. This allowed them to remove the impact of macro and regional factors on prices and isolate the impact of duty on the housing market. They found the effect of transfer duty on prices tends to be larger close to state boundaries, where there are different rates of duty. They also found neighbouring jurisdictions with lower rates of duty create competition.

Theoretically, when a buyer pays transfer duty, this reduces demand at all prices and the demand curve shifts to the left (Figure 6). For example, a buyer who was willing to pay $1,000,000 for a property before duty is applied will only be willing to pay $1,000,000 less the liability of the duty once it is applied. These impacts distort the housing market, reducing its efficiency. Economists call this inefficiency a deadweight loss and have tried to estimate the size of the loss.

Figure 6 also shows the deadweight loss on the market equivalent to the following:

$$\tfrac{1}{2}\,(Po-Pt)/(Qo-Qt)$$

Pt and Qt are the after-tax price and after-tax number of transfers, respectively.

[3] Davidoff, Ian and Leigh, Andrew, How Do Stamp Duties Affect the Housing Market? (September 2013). Economic Record, Vol. 89, Issue 286, pp. 396-410, 2013.

Expressed as the impact of the tax as a tax rate on the tax base, it is equivalent to:

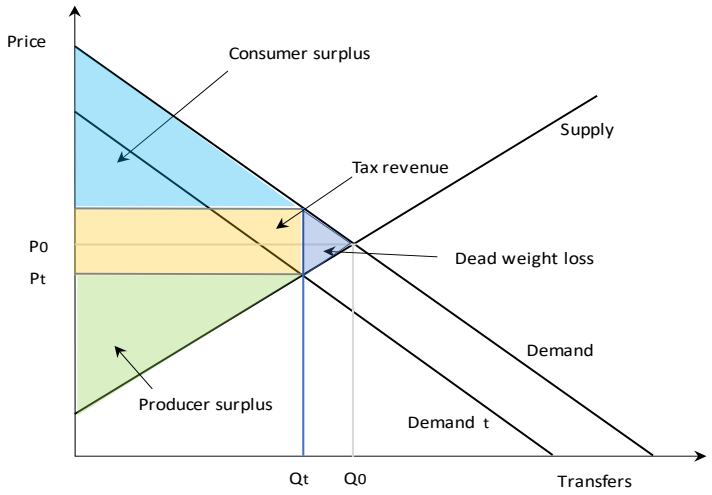
$$\tfrac{1}{2}*\varepsilon*t$$

, where *t* is the tax rate and ε is a constant reflecting the elasticity of the tax base at the tax rate.

We can then estimate the deadweight loss of the tax on the economy. Appendix D provides more explanation of the deadweight loss.

In a paper on the European housing markets, Van Ommeren and Van Leuvensteijn (2005)[4] estimated that ε is approximately -8.0, or a 1% increase in transfer duty decreases mobility by 8%.

Figure 6: Impact of an increase or new transfer duty



Source: NHFIC

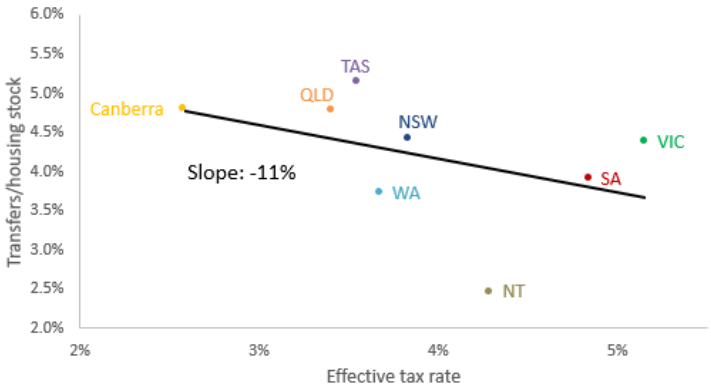
Using ABS data on established house and apartment prices and the number of transfers for the Australian housing market for each type of dwelling for the past year by applying the current transfer duty regimes, we estimate that ε is approximately -11.0[5]. This suggests Australian jurisdictions are around 40% more sensitive (--11% vs. -8%) to duty as it is applied than many European countries and gain substantial benefits from the increase in mobility removing transfer duty would provide.

Figure 7 shows the relationship between the number of transfers and transfer duty rates for the median dwelling price for the states and territories.

[4] Van Ommeren, Jos and Michiel van Leuvensteijn (2005), "New Evidence of the Effect of Transaction Costs on Residential Mobility", *Journal of Regional Science*, 45(4):681-702.

[5] Estimated by regressing the log of the number of transfers/the dwelling stock and the effective tax rate, so the slope of the line of best fit is comparable with the methodology used in Van Ommeren, Jos and Michiel van Leuvensteijn (2005).

Figure 7: Transfers and the effective rate of duty at the median house price*



Source: NHFIC. * For the purposes of this paper, the effective rate is the transfer duty liability divided by the house price. Number of transfers and median house price are for the Q1 2017 – Q4 2020 period. The median house price is calculated from the median established house and median attached dwelling price weighted by the number of transfers for each dwelling type. There is no ACT established house or attached dwelling price, or data on the number of transfers for the ACT.

The ACT's progress towards abolishing transfer duty means Canberra has the lowest effective rate of duty and the highest number of transfers over the past year. VIC has Australia's largest rate of transfer duty, but it also has a larger number of transfers than SA and WA. NT's lower than average transfer rate is likely due to the small size of the market and a lack of liquidity.

Van Ewijk, C., & van Leuvensteijn, M (2010)[6] estimated that if transfer duty in the European OECD countries and the UK was removed, GDP would increase by around 0.4% per annum, all else being equal.

In Australia, VIC has the most to gain from removing transfer duty, which costs the state economy 0.34% of state final demand each year (Figure 8). At the other end of the spectrum, the cost of transfer duty to the NT and Canberra economies is a relatively small (0.08% of final demand).

Figure 8: Estimated deadweight loss of transfer duty (Q1 2020 – Q1 2021)

Jurisdiction	Impact of Transfer duty (%)	Deadweight loss ($Abn)	Deadweight loss (% SFD)
NSW	-0.38	-1.60	-0.26
VIC	-0.51	-1.64	-0.34
QLD	-0.31	-0.50	-0.14
SA	-0.41	-0.24	-0.20
WA	-0.33	-0.25	-0.12
TAS	-0.35	-0.06	-0.16
NT	-0.42	-0.02	-0.07
Canberra	-0.27	-0.04	-0.08

Source: NHFIC, ABS. SFD is state final demand. ACT state final demand is used as a proxy for Canberra state final demand.

In Australia, property tax (mainly transfer duty, land tax and municipal rates) is a little above the OECD average, while total tax revenue is a little below average (Figure 9 - LHS).

If we assume that house price growth is positively correlated with the number of transfers, then it would appear Australia relies more upon on transfer duty than land tax as a tax revenue source compared to the other OECD countries.

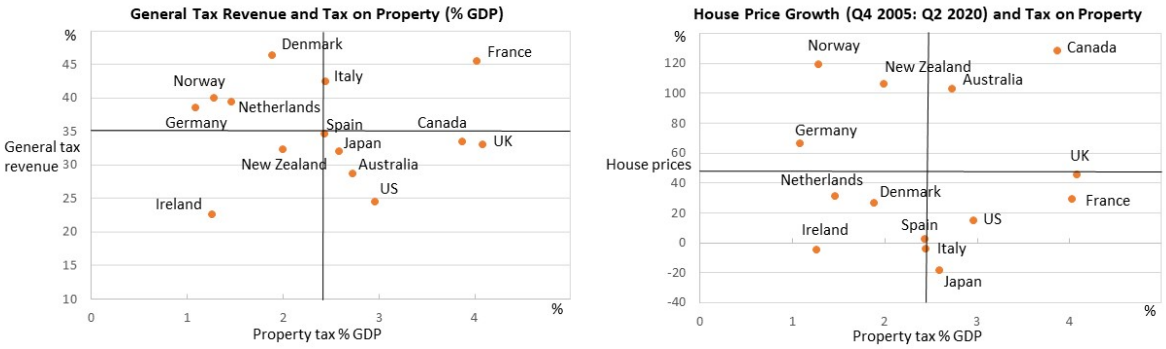
The same assumptions would then imply Canada relies more on transfer duty than Norway, New Zealand, and Australia, given it saw similar house price growth to these countries, but with larger property tax revenue.

[6] van Ewijk, C., & van Leuvensteijn, M. (2010), "Reduce tax on residential mobility", VOX : Research-based Policy Analysis and Commentary from leading Economists.

France and the UK saw much weaker house price growth, but they generated similar property tax revenue, suggesting they rely more upon land tax and municipal rates than transfer duty.

Ireland has a relatively low tax base and relatively low property tax. By comparison, Denmark, Germany, Norway and the Netherlands have a relatively high tax base, but relatively low tax on property. France has a relatively large tax base and a relatively high tax on property.

Figure 9: Global property tax



Source: OECD. BIS House price growth is price appreciation Q4 2005 to Q2 2020. Property tax includes transfer duty on residential property transactions, land tax and municipal rates.

The design of progressive tax regimes implies that **if the fixed amount is not reduced and/ or the price brackets are not increased in proportion with increases in house prices then the effective tax rate will increase.**

Figure 10 shows that when states and territories don't adjust duty rates and thresholds enough to offset the large dwelling price increases, the effective rate of duty increases over time.

Even in the ACT, where transfer duty is being phased out, the rise in the median house price in Canberra has increased transfer duty and the effective rate of duty has fallen by only 0.4%pts since the start of its phase out period in 2013. The largest increase in the effective transfer duty rate is in NT, where it has risen by 2.2%pts since 2002. The smallest increase in the effective rate was in Brisbane where the increase in duty was more closely matched with the increase in the median price compared with other cities.

The findings suggest that **transfer duty revenue growth is difficult to contain unless policy makers proactively adjust tax design**, which is currently not the case in Australia.

Figure 10: Effective tax rate and house price growth by capital city				
City	**Effective tax rate (%)**	**Transfer duty ($)**	**Median house price ($)**	**Median house price growth (%)**
Sydney				
Q1 2002	3.3	11,915	365,000	
Q1 2021	4.1	42,755	1,050,000	188%
Melbourne				
Q1 2002	4.2	10,120	241,000	
Q1 2021	5.4	44,540	824,500	242%
Brisbane				
Q1 2002	2.8	5,113	185,000	
Q1 2021	3.3	20,025	600,000	224%
Adelaide				
Q1 2002	3.3	5,470	166,000	
Q1 2021	4.3	22,705	525,000	216%
Perth				
Q1 2002	2.9	5,510	190,000	
Q1 2021	3.6	19,570	538,000	183%
Hobart				
Q1 2002	2.5	3,124	123,300	
Q1 2021	3.7	22,498	600,000	387%
Darwin				
Q1 2002	2.7	5,222	190,000	
Q1 2021	5.0	26,483	535,000	182%
Canberra				
Q1 2002	3.0	7,300	245,000	
Q1 2013	3.6	18,325	505,000	106%
Q1 2021	3.2	26,625	825,000	237%

Source: ABS, NHFIC, State and territory government revenue departments.

Transfer duty and the demand to purchase property

Demand to buy established houses varies between state and territory capital city markets.

We have estimated the demand curve for purchasing a property in each capital city's housing market using quarterly data from the ABS on the median established house price and the number of transfers in each city. Housing is both a physical and financial asset and for the purposes of this report we consider it to be a financial rather than physical asset.

We then use the number of transfers rather than the stock of dwellings to measure demand and are implicitly assuming the supply of properties is fixed or inelastic in the short run. Both Davidoff and Leigh (2013)[7] and Saunders and Tulip (2019)[8] found supply to be relatively inelastic in their work on the Australian housing market. Furthermore, across the Australian states and territories only 0.5% to 2.0% of the stock of dwellings was transacted each quarter in our 2002 to 2020 sample period.

In most cases the demand curve slopes downward and left to right suggesting that higher dwelling prices reduce affordability and slow demand, resulting in fewer transfers.

[7] Davidoff, Ian and Leigh, Andrew, How Do Stamp Duties Affect the Housing Market? (September 2013). Economic Record, Vol. 89, Issue 286, pp. 396-410, 2013.

[8] Saunders, Trent and Tulip, Peter, "A model of the Australian Housing Market, March 2019, Research Discussion Paper, Reserve Bank of Australia.

Prices are adjusted for both income and mortgage payments and the number of transfers is adjusted for the size of the housing market. By dividing the median house price by net income (gross income – mortgage payments) we are attempting to remove differences between jurisdictions from macroeconomic impacts. The adjustment to the number of transfers is made so that the cities are more comparable.

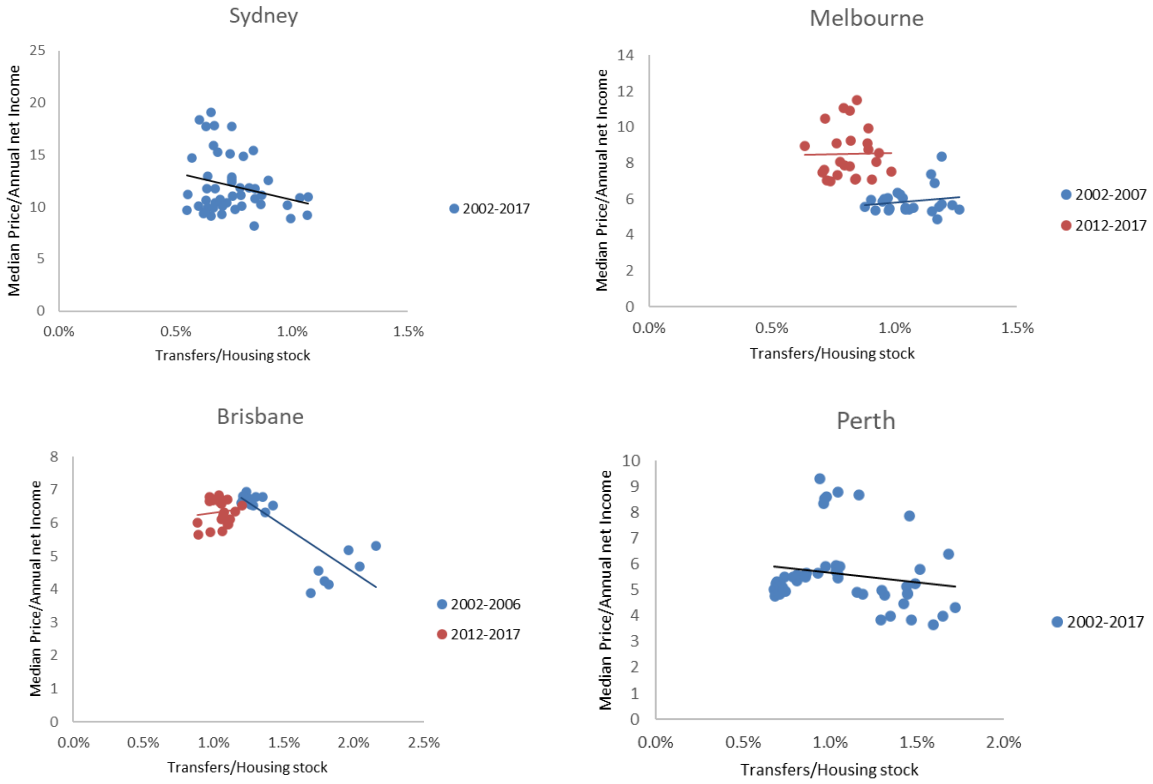
ABS data on the number of residential transfers has been published since 2002 and this limits our analysis. We consider two periods in jurisdictions where transfer duty has changed.

In NSW and WA, where the transfer duty regime has not changed since 2002, the demand curve for Sydney and Perth slopes downwards from left to right, as theory predicts (Figure 11). The slope of the demand curve in these cities also implies that the less affordable a property, the less turnover it attracts.

In VIC, the dutiable value and the fixed amount payable at each price threshold was lifted in 2008, so we analysed the demand curve for Melbourne for the 5-year period between 2002 and 2007 and the 5-year period from 2012 to 2017. The net result of imposing these changes increased the effective transfer duty rate for the median house price from an average of 4.6% between 2002 and 2007 to 5.2% between 2012 and 2017.

In June 2006, QLD raised price thresholds, fixed amounts payable at each threshold, and rates. The largest increases in duty were imposed on the most expensive dwellings and prices close to the median saw relatively small increases in duty.

Figure 11: Demand curves by state for the purchase of established detached houses



Source: ABS, RBA, NHFIC. Net income is average weekly earnings less mortgage payments. Mortgage payments are calculated using the RBA standard variable mortgage rate for owner-occupiers at the median price assuming 40% equity. The median house price is the stratified median house price. Each data point represents a quarterly observation during the period. ABS data on transfers has only been available since 2002.

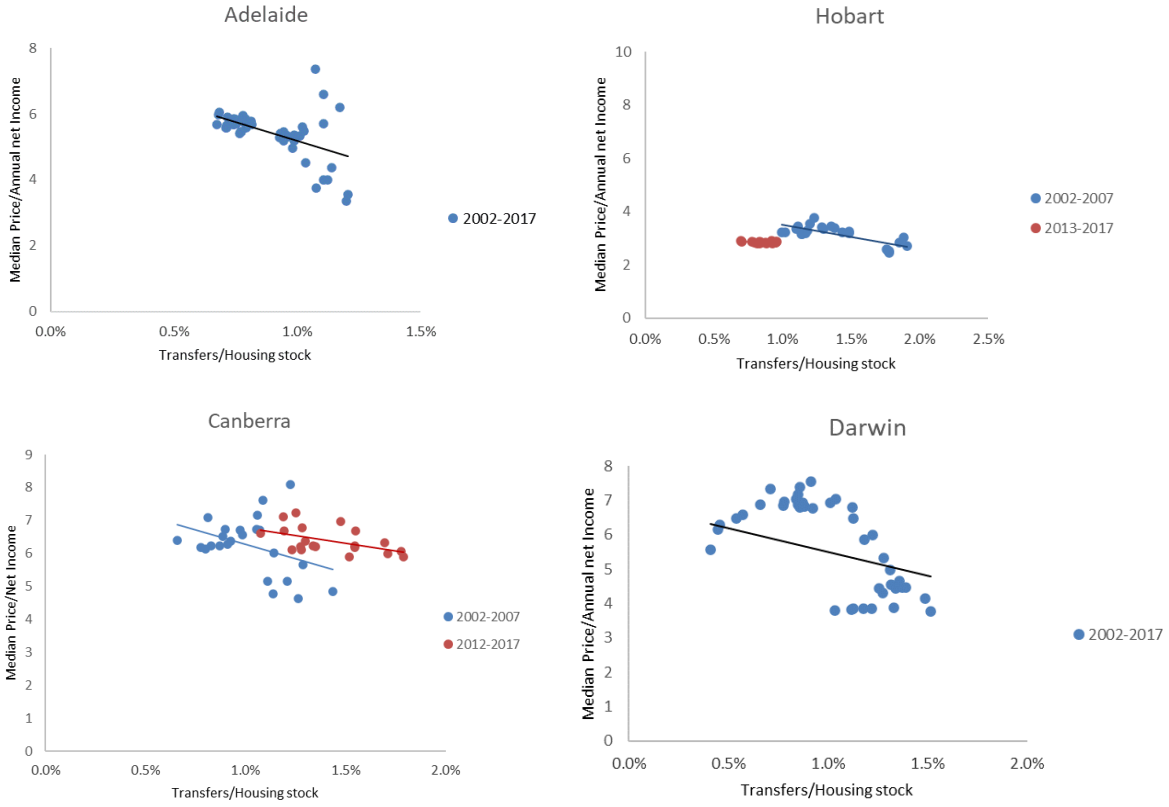
In Brisbane during the 2012 to 2017 period, and in Melbourne during both the 2002 to 2007 and 2012 to 2017 periods, the demand curve is hard to identify suggesting other factors are at play.[9]

In Adelaide and Darwin, where the transfer duty regimes have remained unchanged, markets seem to behave in line with the law of demand (Figure 12).

In 2012, the TAS government raised price thresholds, transfer duty rates and fixed amounts payable at price thresholds, which appears to have shifted the demand curve to the left in line with microeconomic theory. The net result of these changes has been to increase the effective transfer duty rate from 2.5% to 3.2%.

In the ACT, transfer duty has been slowly phased out since 2012, reducing both rates and the fixed amount at price thresholds. The impact on the Canberra market from this reform has been to shift the demand curve to the right, again in line with microeconomic theory.

Figure 12: Demand curves by state for the purchase of established detached houses



Source: ABS, RBA, NHFIC. Net income is average weekly earnings less mortgage payments. Mortgage payments are calculated using the RBA standard variable mortgage rate for owner-occupiers at the median price assuming 40% equity. The median house price is the stratified median house price.

[9] In micro-economics this type behaviour is not consistent with the law of demand and is described as the demand of a Veblen good. A Veblen good is a high-quality product or status symbol and includes goods such as luxury cars or fine jewellery. The abnormal demand for Veblen goods is influenced by conspicuous consumption, where consumers prefer to own exclusive products that are different from the commonly preferred ones. This behaviour leads to stronger demand for a product when its price increases.

Options for moving to a broad-based land tax

This Section develops a model of transfer duty revenue and looks at different ways to transition towards a simple flat rate broad-based land tax. The purpose of this modelling work is not to solve the implementation problems facing policy makers, but to bring more transparency to the challenges they face. Many of the ideas analysed in this Section are not new and have been previously proposed by leading tax experts.

The model

The model is based on the following assumptions:

- In practice, it would be more appropriate to replace a progressive transfer duty regime with a progressive land tax. However, assuming a flat rate allows us to keep the modelling simple, with the aim of demonstrating the nuances of the transition.
- We also assume the impact of the different reform designs on revenue is neutral. In practice, there will likely be some mismatch of foregone transfer duty against land tax revenue gained.
- Land values are assumed to be two-thirds of property prices, reflecting their long-run average. The volatility of land tax revenue should generally be lower than transfer duty revenue because it is broad-based and applied to the entire stock of dwellings. This will naturally be less volatile than transfer duty, which is applied to a much smaller base. In addition, land valuations used for land tax and municipal rates are averaged over a rolling 3 or 4-year period and this introduces less volatility into land tax revenues.

We don't include the ACT in the modelling because it is already on a set course to completely remove transfer duty in favour of a broad-based land tax.

Transfer duty revenue is modelled using ABS data on median prices and transfers for both established houses and attached dwellings (multi-density and apartments). It is not possible to obtain historical data on every transaction, so we rely on quarterly ABS data on the median house and multi-density dwelling price data and the aggregate number of transfers. ABS data on the number of dwellings for each state and territory is also used, with land values assumed to be two-thirds[10] of the median prices for each dwelling type.

We also adopt a consistent approach in modelling transfer duty revenue for each jurisdiction. Adopting a different methodology for each jurisdiction would unnecessarily complicate the modelling process and make the results of the transition less comparable between jurisdictions.

Apart from dwelling prices, the number of transfers is also source of uncertainty for transfer duty revenue. The number of transfers tend to fluctuate with the property cycle, with the number of transfers increasing when price growth expectations are rising and easing when they are falling.

The model estimates a simple linear regression for each jurisdiction to determine the relationship between house prices and the number of transfers. These estimates are used to project the number of transfers for two dwelling price growth scenarios over the phase out period:

- 2% - consistent with soft market conditions
- 5% - consistent with a more robust market.

We then apply the effective rates of duty to median prices within each jurisdiction to project the transfer duty contribution from both established houses and multi-density dwellings.

State governments also collect transfer duty on transactions of residential land, so we include estimates of transfer duty revenue from these transactions.

[10] Land value being two-thirds of property price is reflective of the long-run average

The ABS lending commitments data provides the number of loan commitments for both owner-occupiers and investors when purchasing land only in each jurisdiction. This approach won't capture transactions made without borrowing, but this is likely to be relatively small.

Appendix B details the model of transfer duty for each jurisdiction.

Phasing out approaches

We use our model to quantify transfer duty in both long (20 years) and short (5 years) phase out periods using the two dwelling price scenarios and estimate the effective broad-based land tax substitute. A 20-year period is what the ACT has used to phase out transfer duty - this process began in 2013. We also look at a 5-year period as a practical shorter-term alternative.

Long phase out

Having a low effective rate of duty is a clear advantage because it creates a low starting point when considering swapping transfer duty revenue for a broad-based land tax.

In the long phase out approach, we assume the current tax regime remains in place over the next 20 years in each jurisdiction, with no changes to price thresholds and the same fixed amounts payable at each dwelling price bracket and the same rates of duty.

In this scenario, average dwelling price growth of 2% per annum in NSW delivers a 0.15% per annum average revenue decline over the phase out period from 2021 (Figure 13). If dwelling price growth accelerates to 5% per annum, then revenue growth would rise to 7.5% per annum.

By comparison, the NT generates an average decline of 0.9% per annum in revenue growth from a 2% per annum average increase in dwelling prices mainly because its effective transfer duty rate is low. However, if dwelling prices increased by 5% per annum our model projects that revenue would increase by an average of 0.5% per annum.

In QLD, 2% per annum dwelling price growth delivers an average decline of 0.8% per annum, while 5% per annum growth lifts average annual revenue growth to 8%.

Figure 13: Projected transfer duty revenue (20-year phase out)

Source: NHFIC. 2021 revenue figures are based on regression estimates of growth from 2020 revenue. See appendix B for more details.

The relatively weak growth in transfer duty revenue due to 2% house price growth implies that when a broad-based land tax is substituted the average effective land tax for all jurisdictions would be only 0.26% when applied to all properties within each jurisdiction.

If we substitute transfer duty for a broad-based land tax while maintaining a revenue-neutral setting on all properties within jurisdictions, the average tax rate would be 0.3% in NSW and 0.36% in VIC (Figure 14). In NSW, this is slightly higher than the current average effective municipal rate and around the same as the benchmark in VIC.

However, substituting the transfer duty revenue from an average 5% per annum increase in dwelling prices over the 20-year period would lift the average land tax rate required to 0.45% in NSW. In VIC, it would rise to 0.49%. The average increase in land tax rates across the states is 0.07ppts in converting a transfer duty revenue stream underpinned by dwelling price growth of 5% per annum against one underpinned by only 2% per annum dwelling price growth.

In its proposed reform, NSW indicated that for owner-occupiers it would set the land tax at a fixed amount of $400 plus 0.3% of the unimproved land value, which is consistent with our estimates. The government plans to set the fixed amount of land tax for investors at $1500 and the rate at 1.1%. Existing stamp duty concessions for first home buyers would be replaced with a grant of up to $25,000.

Figure 14: Effective substitute land tax rates (20-year phase out): 2%pa and 5%pa house price growth (%)

	NSW	VIC	QLD	SA	WA	TAS	NT	Ave
2% pa price growth	0.30	0.36	0.26	0.20	0.23	0.22	0.22	0.26
5% pa price growth	0.45	0.49	0.41	0.20	0.27	0.26	0.19	0.33
Ave effective municipal rates	0.25	0.37	0.52	0.59	0.56	0.59	0.42	0.47

Source: NHFIC, ABS Residential share of municipal rates is total municipal rates *residential land value/ (residential land value+ commercial land value).

A neat swap of duty for land tax probably won't be reflected in the practicalities of implementation. For example, it would be difficult to set the effective rate of land tax to match an equivalent transfer duty revenue without knowing future dwelling and land price appreciation and the number of transfers.

Equally, a neat swap takes no account of the impact of introducing a new tax on properties that haven't traded for some time.

When transfer duty is removed, the price of properties transacted in the market should increase and deliver a short-term wealth gain to all existing property owners as the reform is capitalised into prices. Importantly, this is also the price setting process for those properties, whose value should increase by the duty they would attract if sold.

In theory, if buyers are rational and have perfect information about the period they will live in the new property, the replacement land tax will work in the opposite direction and lower the value of all properties by the magnitude of the land tax liability, but only after the tax is fully discounted to the period the household occupies the property. However, in practice, uncertainty around the discount rate and tenure means it will be difficult for households to make perfectly rational calculations on future tax liabilities.

In other words, removing duty gives buyers additional purchasing power, which is likely to be capitalised into prices. The simultaneous introduction of the land tax adds additional non-discretionary expenditure to the cost of owning a home and will be treated by households, or lenders, like insurance or utility costs. In a practical sense, the new land tax may reduce the ability of the household to service their mortgage, but it would be small relative to larger household expenses such as mortgage costs.

In its recently release Progress Paper on transfer duty reform, the NSW government found that only 53% of respondents to their Have Your Say survey said the proposed property tax changes would help them enter the housing market.[11]

Figure 15 illustrates the impact on the value of the median house price for Sydney, Melbourne, Brisbane, and Perth where duty is removed and simultaneously swapped for land tax. We use two scenarios – one assuming no price appreciation and the other with an underlying 5% per annum increase in prices while the reform is occurring. We also assume land prices increase at the same rate.

In the unlikely scenario of no price appreciation over the longer-term, the boost to dwelling prices from removing transfer duty is eroded by the replacement land tax over around 15 years in Sydney and Brisbane, and over 18 years in Melbourne. In every other city, **removing duty over the 20-year period increases net value**. As long as the reform is done against the background of even a modest 5% increase in dwelling prices, then the net impact of reform is not large enough to offset the lift in prices generated by the reform.

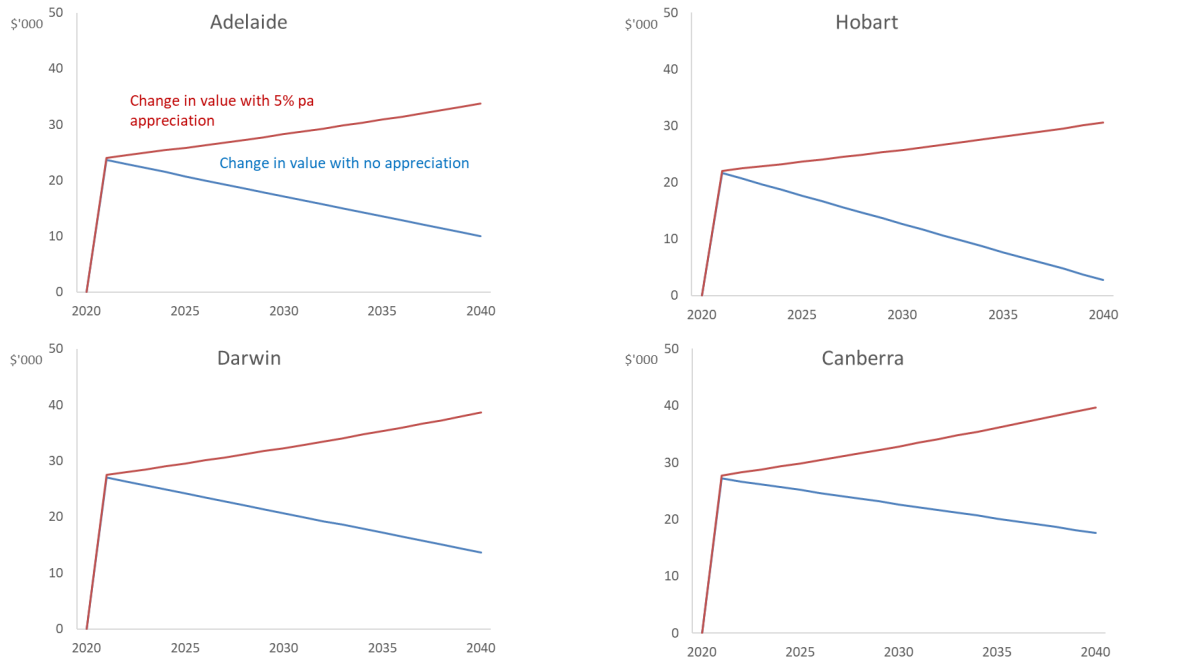
[11] NSW Government, "Property Tax Proposal, June 2021.

Figure 15: Change in value: median house price from transfer duty removal - land substitution

Source: ABS. Median established dwelling prices are used in this calculation.

In Hobart, the substituted land tax nearly offsets the positive impact on prices from the removal of duty by 2040. By comparison, the low effective rate of duty in Darwin means the impact on property value from the reform is even smaller.

Figure 16: Change in value: median house price from transfer duty removal - land substitution

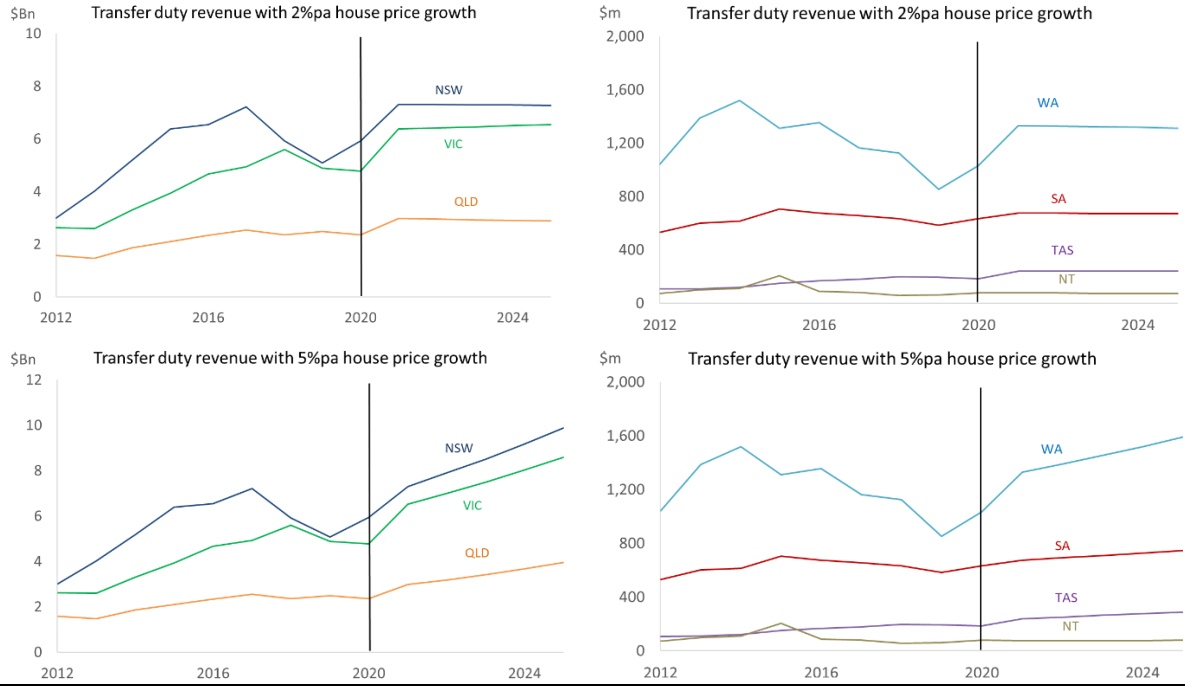


Source: ABS. Median established dwelling prices are used in this calculation

Short phase out

The advantage in a shorter phase in period is that house price growth is likely to be more contained, so the amount of transfer duty swapped for land tax is a much smaller. In NSW, transfer duty is projected to be only $9.9bn after 5 years, assuming 5%pa house price growth, compared with $29.1bn by the end of the 20-year period assuming the same price growth (Figure 17). This means that when swapping these transfer revenue streams for land tax, the average effective rate over the transition period is 0.43% vs 0.45%.

Figure 17: Projected transfer duty revenue: (5-year phase out)



Source: NHFIC

In QLD for a 5-year phase out period, the effective land tax rate would be 0.39%, assuming 5% dwelling price growth (Figure 18). The same dwelling price growth would result in a 0.41% effective rate over a 20-year phase out, assuming the impact of the reform is revenue neutral. In contrast, for other states, the effective rate decreases towards the end of the 20-year phase out because transfers decline as price increases, while there is still positive projected growth in dwelling stock/land values.

Figure 18: Effective substitute land tax rates (5-year phase out): 2%pa and 5%pa house price growth (%)

	NSW	VIC	QLD	SA	WA	TAS	NT	Ave
2% pa price growth	0.39	0.46	0.35	0.25	0.30	0.27	0.30	0.33
5% pa price growth	0.43	0.50	0.39	0.25	0.31	0.28	0.29	0.35
Ave effective municipal rates	0.25	0.37	0.52	0.59	0.56	0.59	0.42	0.47

Source: NHFIC

The longer the phase out, the greater the revenue that needs to be raised to achieve a revenue neutral swap. Figure 19 compares the amount of duty to be swapped for a broad-based land tax in both the 5-year and 20-year periods. This is represented in current dollars by discounting the transfer duty revenue using both the 2% and 5% price growth projections.

In NSW, to achieve a revenue neutral swap between transfer duty and a broad-based land tax under a slow house price growth scenario, $94bn of revenue needs to be raised if the reform is achieved over a 20-year period, compared with just $32bn under a 5-year transition.

Figure 19: Net present value of transfer duty revenue by jurisdiction ($bn)							
2%pa price growth	**NSW**	**VIC**	**QLD**	**SA**	**WA**	**TAS**	**NT**
5 years	32.0	28.3	12.8	3.0	5.8	1.0	0.3
20 years	93.8	87.6	36.2	8.6	16.8	3.1	0.9
5%pa price growth							
5 years	37.3	32.8	15.0	3.1	6.4	1.2	0.3
20 years	187.2	156.1	77.3	11.2	25.7	4.7	1.0

Source: ABS, NHFIC, RBA. The discount rate applied is the Banks' average standard variable mortgage rate.

Considerations for policymakers

State and territory governments contemplating reform to transfer duty can consider many different implementation designs, with a variety of exclusion options. A report from the Productivity Commission highlights some of the design issues and options for addressing welfare impacts.[12] This section describes the implementation design being adopted in the ACT and the considerations that the NSW government has made public. It then discusses some of the options available to address equity considerations.

ACT approach

The ACT government has been slowly reducing transfer duty and increasing land tax since 2012. The government has been doing this by increasing price bracket thresholds, reducing the fixed amount payable at each threshold, and lowering the rate of duty at each price bracket.

- The reduction in transfer duty revenue that has come with the reform has been replaced with an increase in land tax.
- The government plans to have duty phased out by 2032.
- Homeowners who bought their property under the prior transfer duty arrangements incur a land tax liability reasonably consistent will the decline in transfer duty.

NSW approach

The NSW state government also plans to phase out transfer duty in favour of a land tax, with a Progress Paper recently released indicating the proposed design and showing the result of its first round of public consultation.[13] A second round of public consultation will be completed in July and an update will be released later in the year. Some key features of the proposal that have been made public include:

- Opt-in-opt-out arrangement. Buyers will have the option to pay the tax at the point of sale (transfer duty effectively remains) or pay a much lower land tax annually for the full tenure of ownership. Once properties are swapped for land tax then that land tax remains in place for all future owners.
- The land tax will contain a fixed amount and an ad valorem rate. The fixed amount and the variable amount of tax payable will both be indexed.
- Price thresholds will be designed to limit the number of properties initially eligible to transition to a land tax. The Progress Paper mentions over 80% of residential properties are eligible to opt-in from day one. The top end of the market will initially remain under the current transfer duty arrangements.

12 Productivity Commission, March 2018, "https://www.pc.gov.au/news-media/news/better-functioning-towns-cities".

13 NSW Government, June 2021, "NSW Property Tax Proposal".

- The NSW government advises that the transition is likely to reduce state revenue in the short-term, but over the long-term it would be revenue neutral. The impact on revenue will depend upon the take up of land tax for those properties.

- First home buyers will receive a grant initially capped at $25,000 in place of current transfer duty concessions, regardless of whether they opt in to pay the land tax or transfer duty.

- The NSW approach also does not impose land tax on those households who have previously bought property under transfer duty arrangements. This limits the land tax base to only those undertaking a new property transaction. This means land tax would have a very small base that would increase slowly over time. Data on long-term average turnover implies it would take on average around 23 years to turn over the entire housing stock if all transactions were settled with a land tax (Figure 20).

Figure 20: Housing transfers

	NSW	VIC	QLD	SA	WA	TAS	NT	Average
Transfers per annum as a % of housing stock (%)*								
	4.8	4.8	5.2	3.9	4.0	4.7	3.6	4.4
Time to turnover entire stock (years)+								
	21	21	19	26	25	21	28	23

Source: NHFIC, ABS. * Transfers are the number of transfers of detached and attached dwellings per annum divided by the number of dwellings in the housing stock averaged between 2011 and 2020. +Time to turn over the entire stock is 100/ turnover per annum (%).

Land tax distribution and equity

An important consideration in any transition design is taxpayer's equity in the replacement land tax.

Removing transfer duty in favour of a broad-based land tax will affect buyers differently at different price points. We use the transfer duty regime in QLD to illustrate the impact of the 20-year transition at different price points (Figure 21). Policy makers could address the distributional effect of the reform by using a progressive land tax rather than a flat rate.

We also estimate the period it will take for the boost to wealth from the removal of duty to be fully offset by the new land tax assuming a flat land tax rate.

Figure 21: Impact of transfer duty to broad-based land tax swap in QLD by price

House price ($A '000)	Δ wealth from removal of duty ($) (1)	Annual Δ wealth from land tax ($) (2)	Breakeven period (years) (3)	Net Δ in wealth after 20 years (4)
2,000	95,525	-5,500	17	3,278,113
1,000	38,025	-2,800	14	1,615,709
750	26,800	-2,100	13	1,206,476
500	15,925	-1,400	11	799,102
250	7,175	-700	10	397,663

Source: QLD Treasury, NHFIC. Column 1 is transfer duty estimated using current regime. Column 2 is the annual land tax liability estimated using the flat rates calculated assuming 5% price growth (0.41%) in Figure 15 and a land: property valuation ratio of 66%. Column 3 is the breakeven period or Column 1/-1* column 2. Column 4 is the value of the property after 20 years assuming 5% price growth – column 1 + 20 *column 2.

Understanding the broad property owner cohorts and how they are affected by moving to a broad-based land tax is an important consideration in the design of the transition, given **different property values take widely differing times to reach the breakeven point**.

In the current arrangements, the largest number of contributors to transfer duty revenue are those home buyers purchasing properties valued between $400,000-$800,000. The NT has the largest percentage of transfers in this price bracket, followed by the ACT and QLD. NSW has the largest percentage of transfers in

properties purchased above $2,800,000 followed by VIC and WA. TAS has the largest percentage of transfers less than $400,000, followed by SA. Appendix C shows the number of transfers and the transfer duty payable in each jurisdiction.

Policy makers could make the distributional effect of the reform more equitable by using a progressive land tax rather than a flat rate. A progressive replacement land tax could be designed with the distribution of transfer duty in mind when estimating it on the unimproved value of the land. This would ensure the revenue distribution of the land tax mirrors the progressiveness of the transfer duty it replaces. Appendix C illustrates the distribution of an equivalent land tax dwelling where price growth averages 3.5%, the average of 2% and 5%.

The breakeven period when a household is indifferent between paying land tax and transfer duty is quite high: 9.5 years in NSW where the property is valued at $200,000, increasing to 17.4 years for a $3,000,000 property (Figure 22).

In every jurisdiction apart from the ACT, the breakeven period is greater than the average holding period for most price ranges, suggesting that **a typical household would be better off paying land tax than transfer duty**. The ACT is the main exception, because its reform means land tax is relatively large when compared to transfer duty. In SA, the breakeven period is relatively large compared to the other states.

Figure 22: Breakeven and holding period (years)

Price ($'000)	200	600	1,000	1,400	1,800	2,200	2,600	3,000	Average holding period*
NSW	9.5	13.0	14.1	15.4	16.3	16.8	17.2	17.4	12.4
VIC	10.6	15.5	16.5	16.5	16.5	16.8	17.2	17.5	12.5
QLD	10.4	12.8	14.6	16.8	18.0	18.7	19.2	19.6	11.3
SA	20.5	26.8	29.3	30.4	30.9	31.3	31.6	31.8	10.1
WA	12.2	18.2	20.6	21.8	22.5	23.0	23.3	23.5	11.0
TAS	15.9	20.1	21.5	22.3	22.7	22.9	23.1	23.2	10.9
ACT	1.2	3.7	5.2	6.2	6.3	6.3	6.3	6.3	10.9
NT	14.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	9.2

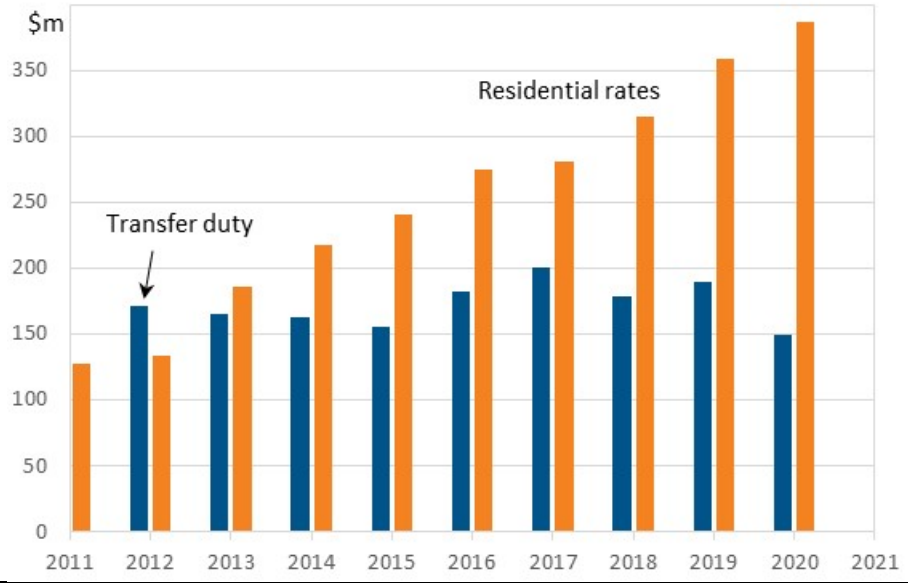
Source: NHIFIC, Corelogic. * indicates average holding period for a detached dwelling in the capital city of the jurisdiction. The land tax is estimated using the flat rates calculated assuming 5% price growth under a 5-year transition and a land: property value ratio of 66%.

The experience in the ACT also highlights the difficulty policy makers have in maintaining a revenue neutral transition over the longer term. In the ACT municipal rates were increasing by around 5.6% per annum in the lead up to the reform according to ABS data.[14] However, during the first 7 years of the phase out the annual growth rate of municipal rates averaged 14.6%.

Figure 23 shows the transition has created a positive impact on the ACT government's revenue. Transfer duty revenue has been relatively stable, despite policymakers' best efforts to reign in the impact of house price appreciation on revenue growth. However, revenue from residential rates has grown strongly as the transition has continued.

[14] ABS Cat 5506, Taxation Revenue, Australia

Figure 23: ACT revenue from transfer duty and residential rates



Source: NHFIC. ABS, ACT territory government Budget Papers. The residential contribution to total duty and total municipal rates for FY11 to FY15 is estimated using the ratio of residential to total duty and municipal rates between FY16 and FY20. A breakdown of rates and transfer duty is not available in the budget papers from FY11 to FY15.

Completely phasing out transfer duty in favour of a broad-based land tax means imposing a land tax on households who own their property outright after paying transfer duty many years ago. The tax also captures households who are either repaying a mortgage that is not their first or, repaying their first mortgage for more than 5 years.

Property owners with no mortgage are the largest cohort in every jurisdiction apart from QLD, WA and the NT and are clearly the most difficult to include in a broad-based land tax because the tax will introduce a new cost (Figure 24). In this context, the NT has the advantage of having only 16% of its properties owned outright with no mortgage.

First home buyers who have been paying their mortgage for less than 5 years own around 6% of all properties across Australia, but in WA they are a relatively larger cohort (9%).

Investors already pay land tax and as part of the duty or land tax swap their contribution to land tax revenue would increase further, given they own around one third of the dwelling stock.

In the NT, investors in this market own a relatively high proportion of the housing stock (49%) compared to the other states, so their contribution to land tax revenue would be even higher. Investors also own a relatively high proportion of the QLD housing stock.

The investor cohort is likely to be mainly Australian citizens. In the eastern state capital cities, overseas investors will probably be a significant part of this cohort.

Figure 24: Property owner cohorts by jurisdiction (% of all dwellings)

Property owner type	NSW	VIC	QLD	SA	WA	TAS	NT
Owned outright	33	33	29	33	29	37	16
Owned with mortgage*	29	29	27	31	31	29	24
First home buyer+	4	7	7	5	9	5	6
Investors	32	30	35	29	28	27	49
Other	2	2	2	3	3	2	5

Source: NHFIC, ABS. * indicates either first mortgage held for more than 5 years or not first mortgage. + indicates bought no longer than 5 years ago. The number of first home buyers over the past 5 years is estimated using the number of first home buyer loan commitments.

Understanding the broad property owner cohorts and how they are affected by moving to a broad-based land tax is an important consideration in the design of the transition.

Credit recent buyers under the old regime

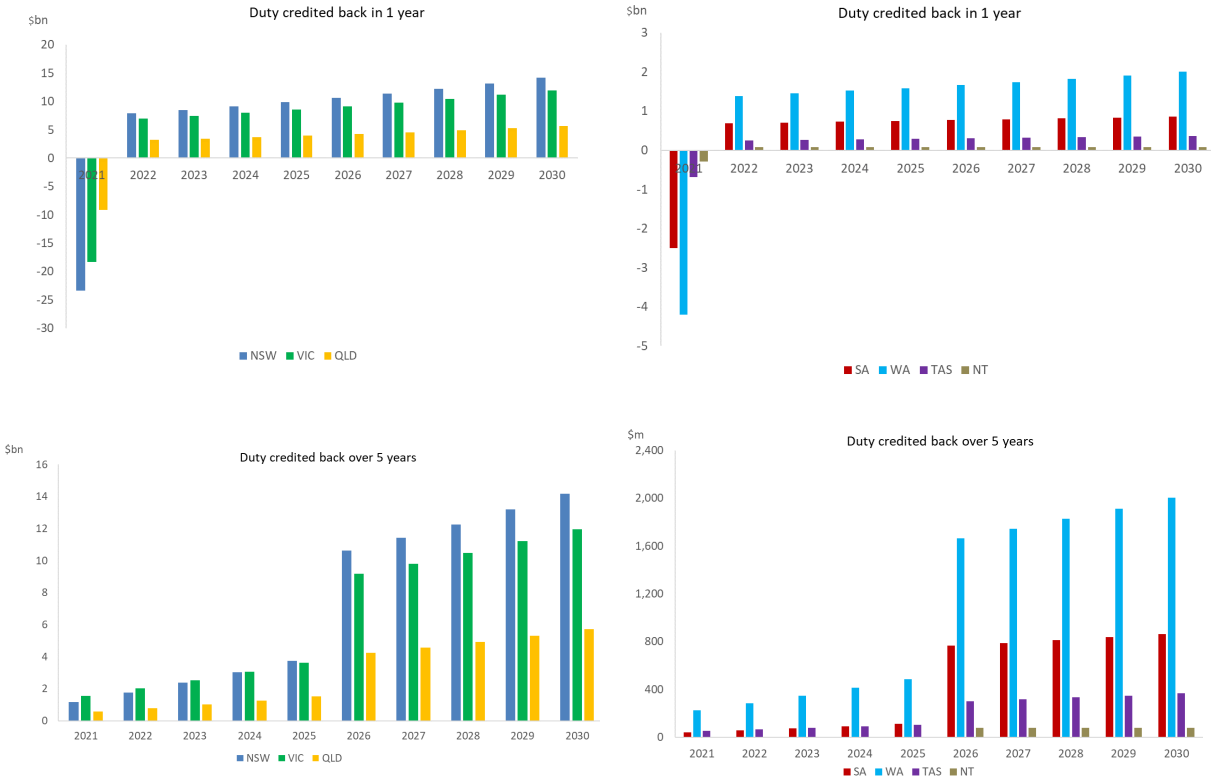
A short phase out design may include a provision where recent home buyers who paid duty under the current scheme are credited back duty paid as they move onto a land tax.

In considering this scenario, we have analysed two options:

- Total amount of duty paid over the past 5 years is credited back to the buyer in 1 year.
- Total amount paid over the past 5 years is credited back evenly over 5 years.

We assume 5% dwelling price growth for each state and territory in each credit and use revenue collected in each jurisdiction over the past 5 years. Crediting all of the revenue back in 1 year means a large fall in revenue even with a background of solid house price growth (Figure 25). On the other hand, if the duty is credited back to buyers over a 5-year period then revenue remains positive in each year. In this scenario, revenue received steps up sharply after all the previously paid transfer duty is credited back.

Figure 25: Transfer duty to land tax swap with recently paid duty credited back



Source: NHFIC, ABS. 5% growth in dwelling prices per annum in the projected land tax revenue calculations.

Policymakers could smooth out the initial drop in revenue by adopting a slightly higher land tax rate for the initial few years so that the present value of the future stream of land tax revenue compensates the government for credit paid to recent stamp duty payers. The government could then borrow to offset the short-term loss in revenue from the transition.

Tax deferral for cash strapped property owners

One of the difficulties of the reform is that it exposes some cohorts, such as retirees, to an additional cost burden at a time in life when they tend to be cash poor. This situation could be avoided by deferring the tax liability until the property is sold and indexing the liability to the government's cost of funding. However, policymakers considering this approach should be aware that households may consider the liability to be a death tax.

Rebates on municipal rates are already in place and could be extended to accommodate an increase in land tax. The SA government has an arrangement with Councils (The Seniors Rates Postponement Scheme) allowing some pensioners to postpone rates until they sell their properties. The NSW government provides a pensioner rebate that is normally supplemented by Council rebates. Brisbane City Council also offers rebates on municipal rates.

Renters

Any new broad-based land tax will introduce a new cost for landlords, and it is possible the cost may be passed on to tenants.

Whether or not the cost is passes onto tenants will depend on their willingness to push back on the increase in cost which, in turn, will depend on the supply and demand balance in the rental market. Tight supply or

relatively strong demand might see at least some of the cost passed on, while over supply or relatively weak demand might see the cost absorbed by the landlord, especially during the phase out period where removing duty will raise the dwelling's value.

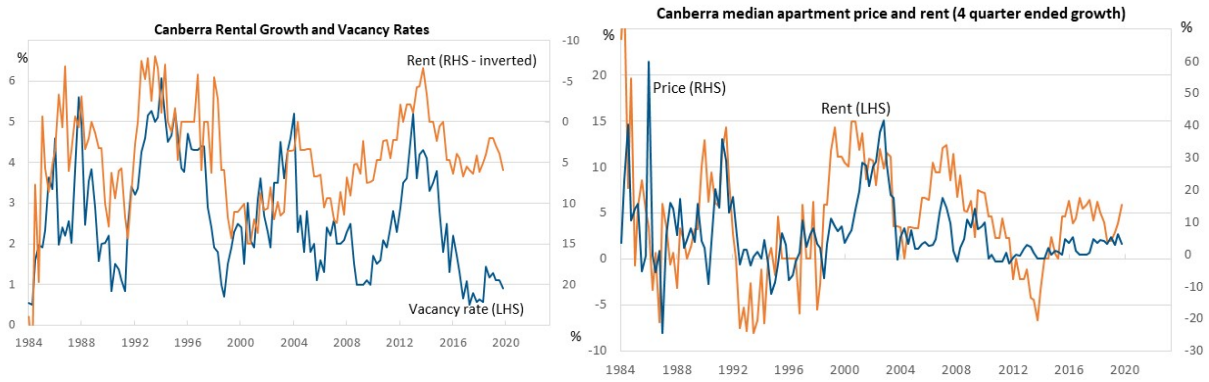
A reason why the replacement land tax is unlikely to be passed on is because landlords seek their return from their property investment in capital growth rather than income. The gross yield on investment properties in the capital cities is normally only at or below the mortgage rate. Furthermore, borrowing allows investors to leverage into any capital gains. Rental income allows investors to service their loan and pay other expenses related to holding property such as maintenance costs, insurance, rates or taxes.

The experience in the ACT also suggests that land tax is unlikely to be passed on to tenants.

In the ACT, where duty has been gradually phased out, there is no evidence to suggest the large increase in municipal rates has created rental pressures. The territory's rental vacancy rate has been very low (around 1% since 2017), but rental growth has remained around 5% (Figure 26). When the reform began in 2013, the vacancy rate was at a cyclical high of 5% and rental growth was -5%. The tightening rental market since then has seen rental growth rise to 5%, with further uplift expected given historical levels at the same vacancy rate in the past.

The NSW proposal includes a protection so that the property tax does not result in rent increases during the term of a rental agreement.

Figure 26: The ACT apartment market



Source: REIA, NHFIC. Prices and rents are the median.

The increase in property turnover from the phasing out of transfer duty in favour of a broad-based land tax could have implications for tenants. Property investors typically have a relative short property ownership period compared to owner-occupiers and the additional turnover generated by the removal of transfer duty may disrupt rental agreements and tenure for tenants if some protection is not put in place.

Appendix A: Transfer duty regimes across Australia

Figure 1: Transfer duty regimes	
Dutiable value range	**Transfer duty**
NSW	
$0 - $14,000	1.25% of dutiable value of the property (the minimum is $10)
$14,001 - $31,000	$175 plus 1.5% of value greater than $14,000
$31,001 - $83,000	$430 plus 1.75% of value greater than $31,000
$83,001 - $310,000	$1,340 plus 3.5% of value greater than $83,000
$310,001 - $1,033,000	$9,285plus 4.5% of value greater than $310,000
Greater than $1,033,001	$41,820 plus 5.5% of value greater than $1,033,000
VIC	
$0 - $25,000	1.4% of the dutiable value of the property
$25,001 - $130,000	$350 plus 2.4% of the dutiable value greater than $25,000
$130,001 - $960,000	$2,870 plus 6% of the dutiable value more than $130,000
$960,001 - $2,000,000	5.5% of the dutiable value
Greater than $2,000,000	$110,000 plus 6.5% of the dutiable value
QLD	
$0 - $5,000	Nil
$5,001 - $75,000	1.5% of the dutiable value greater than $5,000
$75,001 - $540,000	$1,050 plus 3.5% of the dutiable value greater than $75,000
$540,001 - $1,000,000	$17,325 plus 4.5% of the dutiable value greater than $540,000
Greater than $1,000,000	$38,025 plus $5.75 of the dutiable value greater than over $1,000,000
SA	
$0 - $12,000	1%
$12,001 - $30,000	$120 plus 2% of the dutiable value greater than $12,000
$30,001 - $50,000	$480 plus 3% of the dutiable value greater than $30,000
$50,001 - $100,000	$1,080 plus 3.5% of the dutiable value greater than $50,000
$100,001 - $200,000	$2,830 plus 4% of the dutiable value greater than $100,000
$200,001 - $250,000	$6,830 plus 4.25% of the dutiable value greater than $200,000
$250,001 - $300,000	$8,955 plus 4.75% of the dutiable value greater than $250,000
$300,001 - $500,000	$11,330 plus 5% of the dutiable value greater than $300,000
Greater than $500,000	$21,330 plus 5.5% of the dutiable value greater than $500,000
WA	
$0 - $120,000	1.9%
$120,001 - $150,000	$2,280 plus 2.85% of the dutiable value greater than $120,000
$150,001 - $360,000	$3,135 plus 3.8% of the dutiable value greater than $150,000
$360,001 - $725,000	$11,115 plus 4.75% of the dutiable value greater than $360,000
Greater than $725,001	$28,453 plus 5.15% of the dutiable value greater than $725,000

Source: State and territory government revenue departments for FY20, NHIFIC

Figure 1 (continued): Transfer duty regimes	
Dutiable value range	**Transfer duty**
TAS	
$0 - $3,000	$50
$3,001 - $25,000	$50 plus 1.75% of the dutiable value greater than $3 000
$25,001 - $75,000	$435 plus 2.25% of the dutiable value greater than $25 000
$75,001 - $200,000	$1,560 plus 3.5% of the dutiable value greater than $75 000
$200,001 - $375,000	$5,935 plus 4.0% of the dutiable value greater than $200 000
$375,001 - $725,000	$12,935 plus 4.25% of the dutiable value greater than $375 000
More than $725,000	$27,810 plus 4.5% of the dutiable value greater than $725 000
NT	
$0 - $525,000	Duty payable = $(0.06571441 \times V^2) + 15V$, where V is 1/1,000 of the property's dutiable value
$525,001 - $3,000,000	4.95% of the dutiable value
$3,000,001 - $5,000,000	5.75% of the dutiable value
More than $5,000,000	5.95% of the dutiable value
ACT	
$0 - $200,000	$20 or 1.20% of the dutiable value, whichever is greater
$200,001 to $300,000	$2,400 plus $2.2% of the dutiable value greater than $200,000
$300,001 to $500,000	$4,600 plus 3.4% of the dutiable value greater than $300,000
$500,001 to $750,000	$11,400 plus 4.32% of the dutiable value greater than $500,000
$750,001 to $1,000,000	$22,200 plus 5.9% of the dutiable value greater than $750,000
$1,000,001 to $1,454,999	$36,950 plus 6.4% of the dutiable value greater than $1,000,000
$1,455,000 and over	4.54% of the dutiable value

Source: State and territory government revenue departments, NHIFIC

Appendix B: Transfer duty model

This appendix describes the methodology used to forecast residential transfer duty revenue and subsequently derive average effective land tax rates needed to replace the same level of revenue for each state and territory over the projection period. The ACT is excluded from transfer duty revenue projections given it has already commenced transfer duty reform.

Dwelling prices

ABS data on median established house prices and median prices for attached dwellings (apartments) are projected out to 2040 under two scenarios; where prices rise 2% annually; and where prices rise 5% annually.

Number of transfers

ABS also has data on the number of transfers for established houses and apartments for each state and territory up to the end of 2020. While ABS data on the number of transfers for 2020 are available for every state, Melbourne's property market was adversely affected by the pandemic and associated lockdowns, so a regression equation was used instead to determine the number of house and apartment transfers for Melbourne in 2020. Recent ABS data are also subject to revisions. The number of house and apartment transfers in each state's capital cities and rest of state areas for 2021 are calculated by annualising the quarter-on-quarter growth rate for each dwelling type from September 2020 to December 2020. A linear regression of quarterly observations of historic 4-quarter ended price growth against transfers growth for each dwelling type from 2005 to 2020 (September quarter end) is used to determine the growth rate for transfers for houses and apartments under each scenario going forward from 2022.

A proxy is used to calculate the number of land-only transfers due to the lack of readily available data. The number of land-only transfers is assumed to be a percentage of total transfers. The percentage is set as the ratio of new loan commitments to purchase residential land for owner occupiers and investors to total housing excluding refinancing from 2019-20 for each state and territory. This percentage was then applied to total transfers to get the number of land transfers for each year, both historically and over the projection period.

Land value

The growth in average land value per property in each state is assumed to match the growth in prices under each scenario. Land value is assumed to be two-thirds of the price for houses and apartments, which reflects the average ratio between land value and property price.

Dwelling stock growth is assumed to increase at each state and territory's historic average growth rate from Q3 2012 to Q3 2020.

Transfer duty revenue

NSW residential transfer duty revenue from 2012 to 2020 is available on the state government website. Other states provide transfer duty revenue totals but do not specify the breakdown between residential and non-residential transfer duty. For these states, the average ratio of NSW's residential transfer duty to total transfer duty from 2012 to 2020 is used to derive annual residential transfer duty revenue by calendar year.

Transfer duty payable for houses, apartments and land transfers over the projection period is calculated by applying the current transfer tax regime for each state to the projected house, apartment and land prices under the two scenarios. Transfer duty payable is then multiplied by the projected number of transfers for houses, apartments, and land to arrive at an initial estimate of projected transfer duty revenue.

Because historic annual residential transfer duty revenue reported by the NSW state government differs from the revenue based on ABS calculations and our assumption of land values, we have adjusted our initial estimate of projected transfer duty revenue.

Our estimates of historic annual transfer duty revenue from 2012 to 2020 is regressed against historic annual transfer duty revenue reported by state government websites. Our projected estimates of transfer duty revenue for each state are inputted into the regression model equation, enabling the annual growth rate in revenue to be determined from the resulting revenue estimations. This annual growth rate is used to determine the projected revenue estimates from 2020 out to 2040.

Land tax rates

The annual effective broad-based land tax rate over the projection period for each state and territory is calculated by dividing each state's transfer duty revenue by the size of the dwelling stock in the state, and then dividing the amount of land tax payable by land value to get the tax rate. The land value used to calculate effective land tax rate is weighted according to the proportion of transfers for houses and apartments in capital cities and rest of state areas over the past five years. An average of the land tax rates is then taken over the projection years to get the average effective land tax rate.

Appendix C: Number and value of transfer duty by price

Figure 1 shows the distribution of transfers by price. Most occur in the $400,000 - $800,000 bracket in NSW, VIC and the ACT. In the other jurisdictions, a relatively large number of transfers occur in the <$400,000 price bracket. NSW has the largest percentage of transfers above $2,800,000. The ACT has the largest percentage of transfers in the $400,000 to $1,200,000 price range.

Figure 1: Percentage of transfers by price ('000) in 2020 (%)

Jurisdiction	<$400	$400-$800	$800-$1,200	$1,200-$1,600	$1,600-$2,000	$2,000-$2,400	$2,400-$2,800	>$2,800
NSW	18.8	40.4	17.9	9.2	5.2	2.8	1.8	4.0
VIC	18.9	48.6	17.2	7.6	3.5	1.6	0.9	1.7
QLD	32.7	49.4	11.7	3.6	1.2	0.5	0.3	0.6
SA	42.7	46.0	7.7	2.2	0.7	0.3	0.1	0.2
WA	37.4	47.4	9.1	3.1	1.4	0.6	0.4	0.7
TAS	48.2	44.4	5.4	1.1	0.4	0.2	0.1	0.2
ACT	3.9	57.9	27.3	7.2	2.0	0.6	0.5	0.6
NT	30.3	63.4	5.0	0.4	0.5	0.0	0.0	0.4

Source: NHFIC, Corelogic.

The ACT has the smallest transfer duty liability for properties < $1,000,000. However, above this price threshold, QLD has the lowest duty liability. VIC has the largest duty liability for properties valued at $200,000 and $600,000 where transfers are the largest. In properties above $1,000,000, VIC also has the largest duty liability, followed by SA.

Figure 2: Transfer duty by price and jurisdiction

Price ('000)	200	600	1,000	1,400	1,800	2,200	2,600	3,000
NSW	5,435	22,335	40,335	62,005	84,005	106,005	128,005	150,005
VIC	7,070	31,070	55,000	77,000	99,000	123,000	149,000	175,000
QLD	5,425	20,025	38,025	61,025	84,025	107,025	130,025	153,025
SA	6,830	26,830	48,830	70,830	92,830	114,830	136,830	158,830
WA	5,035	22,515	42,616	63,216	83,816	104,416	125,016	145,616
TAS	5,935	22,498	40,185	58,185	76,185	94,185	112,185	130,185
ACT	2,400	15,720	36,950	62,550	81,720	99,880	118,040	136,200
NT	5,629	29,700	49,500	69,300	89,100	108,900	128,700	148,500

Source: State and territory government revenue departments, NHIFIC

If we assume dwelling price growth averages 3.5%, then we can use our model detailed in Appendix A to estimate the transfers duty revenue for each jurisdiction. We can then use the equivalent land tax rates estimated in Figure 19 to calculate the land tax liability for each jurisdiction by price assuming 66% of the dwelling value is the unimproved land value. We compared our estimates, based on modest dwelling price growth of 3.5%, to the land tax liability generated from the current land tax settings in the ACT. Land tax in the ACT is more than double the land tax liability estimated for the other jurisdictions at all price points.

Figure 3: Equivalent land tax ($) by price ('000) and jurisdiction									
Jurisdiction	**$200**	**$600**	**$1,000**	**$1,400**	**$1,800**	**$2,200**	**$2,600**	**$3,000**	**Effective land tax rate (%)***
NSW	586	1,759	2,932	4,105	5,278	6,451	7,624	8,797	0.44
VIC	662	1,987	3,312	4,637	5,962	7,287	8,612	9,937	0.50
QLD	536	1,608	2,680	3,752	4,823	5,895	6,967	8,039	0.40
SA	301	904	1,506	2,109	2,711	3,314	3,917	4,519	0.23
WA	388	1,165	1,941	2,718	3,494	4,271	5,047	5,824	0.29
TAS	364	1,092	1,820	2,548	3,276	4,004	4,732	5,460	0.27
ACT	2,012	4,212	7,116	10,020	12,924	15,828	18,732	21,636	na
NT	323	968	1,613	2,258	2,903	3,549	4,194	4,839	0.24

Source: NHIFIC. Unimproved land value assumed to by 66% value of property. * indicates estimated from transfer duty revenue based on average 3.5% dwelling price growth, which is the average of the 2% and 5% price growth scenarios. ACT is actual land tax liability using 2020 land tax rates

We can then compare the longer-term land tax liability with the amount of duty payable under current arrangements. The breakeven period increases with the value of the dwelling because the effective rate of duty increases. Furthermore, it is also larger than the average holding period, suggesting than on average, property owners would be better-off paying land tax over transfer duty.

Figure 4: Breakeven and holding period (years)									
Jurisdiction	**$200**	**$600**	**$1,000**	**$1,400**	**$1,800**	**$2,200**	**$2,600**	**$3,000**	**Average holding period***
NSW	9.3	12.7	13.8	15.1	15.9	16.4	16.8	17.0	12.4
VIC	10.6	15.5	16.5	16.5	16.5	16.8	17.2	17.5	12.5
QLD	10.2	12.5	14.3	16.3	17.5	18.2	18.8	19.1	11.3
SA	22.3	29.2	31.8	33.0	33.6	34.0	34.3	34.5	10.1
WA	13.0	19.4	22.0	23.4	24.1	24.5	24.9	25.1	11.0
TAS	16.5	20.8	22.3	23.1	23.5	23.8	24.0	24.1	10.9
ACT	1.2	3.7	5.2	6.2	6.3	6.3	6.3	6.3	10.9
NT	17.6	30.9	30.9	30.9	30.9	30.9	30.9	30.9	9.2

Source: NHIFIC, Corelogic. * indicates average holding period for a detached dwelling in the capital city of the jurisdiction.

Appendix D: Supply of housing and deadweight loss

The change in price relative to the change in tax is measured as follows:

dp/dt = Es/(Es-Ed)

The price elasticity of demand is calculated as the percentage change in quantity demanded divided by the percentage change in price.

The price elasticity of supply is the percentage change in the quantity supplied divided by the percentage change in price.

Ed = dq/Q/dp/P

Es = dq/Q/dp/P

If housing supply is relatively inelastic then dp/dt is approximately -1 and the burden of the tax falls on the seller/vendor.

Davidoff and Leigh (2013)[15] estimate:

dp/dt *t/p = -0.3

If the effective rate of transfer duty (t/p) equals 5%

Then dp/dt = -6.0.

Saunders and Tulip (2019)[16] also suggest that the economic incidence of transfer duty will fall mainly on the seller/vendor at the economy-wide level. They found the elasticity of supply for the housing stock is 0.07.

Abelson and Joyeux (2007)[17] define the deadweight loss as:

$0.5 \times \Delta Q \times \Delta P$

$0.5 \times (\Delta Q/\Delta t) * (t/Q) * (Q/t) * (\Delta t/P) * P * \Delta P$

If the initial transfer duty rate is 0,

Then $\Delta t = t$ and that $\Delta P = \Delta t = t$ (a mover sells and then buys so always pays transfer duty).

then, 0.5 *ΔQ/Δt **t/Q)*t/P * (P*Q)

where ΔQ/Δt *t/Q is the elasticity of transactions relative to transfer duty

t/p is the effective rate of transfer duty and P*Q is the value of the housing stock

[15] Davidoff, Ian and Leigh, Andrew, "How Do Stamp Duties Affect the Housing Market?", September 2013, Economic Record, Vol. 89, Issue 286, pp. 396-410, 2013.

[16] Saunders, Trent and Tulip, Peter, "A model of the Australian Housing Market, March 2019, Research Discussion Paper, Reserve Bank of Australia.

[17] Abelson, Peter and Joyeux, Roselyn, "Price and Efficiency Effects of Taxes and Subsidies in Australian Housing", Economic Papers Vol. 26 No. 2 June 2007 pp. 147-169.