

Deloitte Access Economics

# The economic impact of stamp duty: Three reform options

Property Council of  
Australia

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# Executive Summary

Stamp duties have traditionally been a significant revenue earner for state governments, accounting for around a quarter of their own-source taxation revenues (though a rather smaller share of their total funding, given reliance on grants distributions). However, they are also taxes which impose particularly high economic costs. Accordingly, the pursuit of an efficient tax system – coupled with the broader imperative to find sources of productivity gain in the Australian economy – has led to calls for their replacement with more efficient taxes.

Governments are starting to act on this advice, with both the ACT and South Australia moving to reduce or abolish stamp duties on property conveyances as key components of their tax reform agendas. This report assesses the costs of stamp duties to the economy, the potential benefits from their replacement by more efficient taxes, and the revenue impacts on state budgets under certain abolition scenarios. It extends previous analysis in the area of property tax reform by investigating the likely impacts on the property market in both the short and long term, and estimates a more complete measure of the costs of stamp duties by including the inefficiency caused by the impact on transaction volumes.

## Not all taxes are the same

Not every dollar raised in tax has the same impact on the incomes earned by Australians. Some taxes raise revenue at a material cost to prosperity, while others have far lower costs. Efficient taxes are those that raise a given amount of revenue while distorting the behaviour of individuals and businesses as little as possible. That is, from an economic efficiency perspective – and acknowledging there are other considerations like simplicity and fairness – the best taxes are those which least affect the decisions of businesses and families.

This difference in the efficiency of taxes raises a potential pay-off from tax reform. If the same amount of revenue is raised, but in a way that damages the economy less, there is the potential for Australia and Australians to be better off.

## Why are stamp duties so costly to Australia's prosperity?

The most efficient taxes are those levied on:

- Broad bases – reducing the extent to which individuals or businesses decrease the consumption of one good or service in favour of untaxed substitutes and limiting the rate of taxation required to raise a given volume of revenue; and
- Inelastic supply or demand – that is, those goods or services where either the demand or supply side of the market is relatively unresponsive to price changes, and therefore where taxes distort behaviour the least.
  - Immobile factors of production represent one set of circumstances where market responses will be particularly inelastic – that is, when the factors used to produce the product are less easily able to move to untaxed forms of production. Capital is typically the most mobile factor and taxes on capital therefore tend to distort activity by the greatest amount.

Both of these criteria go to the heart of whether – and to what degree – a tax changes the decisions made in markets. Stamp duties perform especially poorly against these efficiency criteria. As transactions-based taxes on the capital improved value of property, they affect the decision to transact, and hence to allocate capital to the market. Capital will flow to other forms of investment that yield a higher after-tax return but where it is less productive on a before-tax basis.

While stamp duties are levied on properties, they are not levied on the consumption of property. Instead, they are levied on property transactions, which can be avoided through a number of means. This may include simply not moving, investing in renovations instead of purchasing a more desirable property, or not entering the property market. The overall result is that stamp duties not only lead to a reduction in the stock of property – they also lead to an inefficient use of the remaining stock. This effect on transactions may be large, using figures from the academic literature it is estimated that around 340,000 property transactions are foregone each year due to stamp duties.

This misallocation may manifest in a variety of ways:

- By increasing the costs of moving, stamp duties may decrease labour mobility, overall labour supply and productivity in the economy;
- They can increase the costs of businesses efficiently restructuring or relocating;
- They can increase the costs of commuting, whether directly to the homeowner or indirectly through their impact on congestion and pollution;
- As owners are discouraged from transacting properties, stamp duties can prevent efficient up-sizing or down-sizing of property across the population;
- The fewer transactions will also affect those businesses which sell products related to property transactions, such as removal services and some retail purchases; and
- Stamp duties can discourage moving for personal reasons, for example, to be located closer to friends or family.

#### Stamp duties have costs to fairness and revenue certainty

Not only are stamp duties inefficient, they can make government budgeting difficult. Because both prices and volume of transactions can change over time as conditions in the property market change, stamp duty revenue can also be volatile year-on-year, reducing the ability for state governments to plan their budgets.

Further, by taxing transactions, stamp duties are also relatively ad-hoc from an equity perspective, penalising those individuals or businesses which move more frequently. Two otherwise identical individuals could face a significantly different tax bill for the consumption of housing simply by having different preferences or requirements for moving.

#### How do stamp duties affect the property market?

As taxes on property, the most direct impact of stamp duties is felt in the property market and those individuals and businesses engaging with it. The incidence of taxes will typically be shared between buyers and sellers, with the proportion borne by each group depending on their relative responsiveness (elasticity) to price changes. The extent to which the

incidence of stamp duties is borne by sellers or buyers is ultimately an empirical question, and the research literature sheds some light on this.

The general finding is that sellers predominantly bear the cost of stamp duties, intuitively because they are least able to avoid moving. Several studies, both of the Australian property market and internationally, use statistical techniques to demonstrate that the incidence of property transaction taxes tend to fall on the seller. Sellers are less able to avoid these taxes than potential buyers who have alternative investment and occupancy options, including renting, and who will allocate their consumption or investment capital elsewhere to capture a higher after tax return. This finding implies that sellers are less responsive to price, or equivalently taxes, than buyers, although this is likely to vary to some extent over time and geographies.

The implication of these findings is that a removal of stamp duties would not lead to a large change in the tax-inclusive price of property: instead the price rises would largely offset the tax reduction, with the seller receiving a higher after-tax return. Since buyers are concerned with the total cost of property ownership, whether principal or tax, there would not be major implications for housing affordability resulting from an abolition in the short term.

The increase in the sale price of housing will, however, attract investment into the sector. With stamp duties removed, higher property prices lead to an increase in returns from investment in new property. Construction costs are also likely to fall, with stamp duty being charged at multiple points in the development process, including upon sale of the land to the initial developer. Overall, development costs will fall, while the sale price will rise, making investment in new stock more attractive. The rise in transactions will also likely incentivise investment to some extent, with faster turnover of newly constructed stock.

Empirical studies show that supply is responsive to increases in property prices, and the longer term impact on the market will be a larger property stock. This will place some downward pressure on prices relative to those which prevailed with stamp duties in place. The increase in transaction volumes may also stimulate investment, as developers would likely be able to sell stock more quickly in a market with increased trading volumes.

The impact on nominal property prices will also be affected by the taxes chosen to replace the foregone stamp duty revenue. Should part of this revenue be replaced through an increase in land taxes, or some other form of property taxation, the capitalisation of these taxes into house prices would reduce any change to nominal property prices.

Replacing stamp duties with more efficient taxes will also lead to an increase in property transactions. Again, this is an empirical question addressed by Leigh and Davidoff (2013) in the Australian context (and a host of researchers internationally). They find that a 10% increase in stamp duties will lead to a 3% reduction in property transfers in the short term, and a longer term reduction of 6%. Extrapolating this result would imply that a complete abolition of stamp duties (that is, a 100% reduction) would lead to an increase in property transactions of around 60%.

This extrapolation may be imprecise as the original study only analysed the effect of a 37% increase in stamp duties. However, it provides a useful indication of the possible size of the impact that stamp duties may have on transaction volumes. Intuitively, it would imply that the average turnover period for the property stock falls from 13 years to 8 years. The

Federal Treasury, in its recent modelling for the Tax White Paper, estimates that stamp duties comprise around 45% of the total cost of moving property. It is therefore unsurprising that stamp duties can have a significant impact on transaction volumes.

The modelling in this report is conducted under a range of sensitivities to reflect the uncertainty in this result. These range from assuming no impact on transaction volumes, to the full 60% increase outlined above.

### The economic benefits from replacing stamp duties

At the request of the Property Council, Deloitte Access Economics has analysed three scenarios relating to the replacement of stamp duties:

- **Scenario 1** – all stamp duties on conveyances are replaced in a revenue neutral way with an increase in GST (holding its current base fixed);
- **Scenario 2** – only stamp duties on non-residential properties are replaced in a revenue neutral way with an increase in GST (holding its current base fixed); and
- **Scenario 3** – only stamp duties on new residential properties are removed, in the context of an increase in the GST (which currently applies to new property construction).

The choice of tax used to make the abolition revenue neutral will influence the findings on the economic benefits from reform and the impact on the property market. For the economic modelling it is assumed that stamp duties are replaced in a revenue neutral way by an increase in the GST. This is not meant to infer that GST is the preferred replacement for stamp duties, it is simply chosen as one of a range of possible replacement options.

In either case, the benefits of replacing stamp duties with a more efficient tax base are significant. **An abolition of all property stamp duties in favour of a revenue neutral increase in GST is estimated to lead to a net increase in real consumption of between \$6.0 billion and \$9.7 billion** depending on the impact on transaction volumes assumed.

Real consumption is generally used as a measure of welfare because it measures the increased purchasing power, or material wellbeing, that reforms create for households. A \$9.7 billion increase in real consumption equates to just under \$20 per household per week – or around half of weekly spending on fuel and power. When only non-residential stamp duties are replaced, this still results in a welfare gain of between \$3.1 billion and \$4.0 billion. Hence, **in either scenario households on aggregate are better off: the increased economic efficiency driven by the removal of stamp duties more than compensates for the increased GST payments.**

Table i: Change in real consumption

Scenario	Benefit
Remove all conveyancing stamp duties (no transaction effect)	\$6.0 billion
Remove all conveyancing stamp duties (60% transaction effect)	\$9.7 billion
Remove non-residential conveyancing stamp duties (no transaction effect)	\$3.1 billion
Remove non-residential conveyancing stamp duties (60% transaction effect)	\$4.0 billion

Source: Deloitte Access Economics

Large gains to economic activity are also expected to be realised through these reform scenarios. GDP is estimated to rise by \$2.3 billion when non-residential stamp duties alone are removed, and by \$3.3 billion when residential stamp duties are also abolished. To put this in context, this increase in activity is approximately equivalent to the economic contribution of Australia's dairy industry, estimated to be around \$2.4 billion<sup>1</sup>, and around a quarter of the contribution of Australia's international tourism sector<sup>2</sup>. For gains of this magnitude to be realised through reform of stamp duties alone indicates the high cost that these taxes are currently imposing on the Australian economy.

While Australia as a whole benefits, the impacts at a state level will be driven in part by how the additional GST revenue is distributed. Those states that have a relatively large reliance on stamp duties currently will gain most as a result of the reforms.

At a sectoral level, those areas of the economy which feed into, and feed off, the property sector are estimated to be the biggest beneficiaries from the removal of stamp duties. The modelling estimates significant increases in output in the construction sector (which increases by nearly 1% in size), as well as in the utilities and retail sectors. Those industries which compete for resources with these sectors reduce their output – although, overall, the net impacts are positive for the economy.

Table i: Key sectoral employment impacts (FTEs)

Sector	Removal of all conveyance stamp duties	Removal of non-residential stamp duties
Housing construction	1,097	651
Other construction	3,749	3,158
Water supply	29	-26
Retail trade	1,838	772
Accommodation and Hotels	1,425	555
Financial services	757	398
Other services	2,647	1,201

Source: Deloitte Access Economics

Similarly, employment will increase in those sectors which increase output as a result of the reforms. The construction sector is estimated to employ an additional 5,000 full time equivalent workers when all property stamp duties are removed, while gains will also be realised in retail trade and other service sectors. That said, the overall impact on national employment would be modest, and the long run modelling here assumes full employment in any scenario – the main difference is not in the number of people working, but the more efficient allocation of those workers to different industries in a way that boosts the total size of the economy.

<sup>1</sup> <http://www.pc.gov.au/inquiries/completed/dairy-manufacturing/report/dairy-manufacturing.pdf>

<sup>2</sup> <http://www.pc.gov.au/research/completed/international-tourism/international-tourism.pdf>

## How much would it cost state governments to abolish stamp duties?

States receive, on average, around one quarter of their own-source tax revenues through stamp duties. This is high, but lower than revenues from payroll taxes, and small relative to other sources of revenue that states use to fund their expenditure (for example grants from the Federal Government, and other non-tax revenue sources). Table iii below identifies the proportion of revenue received through stamp duties at a state level, and demonstrates the sizeable variation across states in terms of revenues received.

Table ii: Stamp duty revenue, 2013-14

State and Territory	Total tax revenue (\$m)	Conveyance stamp duty revenue (\$m)	Stamp duties as a % of total revenue
NSW	24,362	6,045	25%
VIC	16,992	4,261	25%
QLD	11,846	2,403	20%
SA	4,107	789	19%
WA	8,594	1,955	23%
TAS	957	154	16%
NT	566	142	25%
ACT	1,296	227	18%
Total	68,720	15,976	23%

Source: ABS 5506.0

The majority of this revenue is received from residential properties, making up over three quarters of total stamp duty revenue at the national level. With the efficiency costs of non-residential stamp duties estimated to be significantly higher than those for residential duties (due to their relatively larger impacts on capital), the removal of this component of stamp duties appears to be a particularly attractive option.

Table iii: Stamp duty revenues from non-residential and new residential properties

Jurisdiction	Stamp duty revenues from non-residential properties		Stamp duty revenues from new residential properties	
	(\$m)	Share of total	(\$m)	Share of total
NSW	1,220	33.3%	1,098	28.5%
Vic	940	25.7%	1,356	35.2%
Qld	555	15.2%	477	12.4%
SA	185	5.1%	168	4.4%
WA	616	16.8%	634	16.4%
Tas	39	1.1%	20	0.5%
NT	28	0.8%	56	1.5%
ACT	41	1.1%	100	2.6%
Australia	3,659	100%	3,855	100%

Source: Deloitte Access Economics

In total, just under a quarter of stamp duty revenue is collected through non-residential stamp duties. A similar proportion of stamp duty revenue is estimated to be received from new residential dwellings. These dwellings face a relatively large tax burden, as GST is paid

on the inputs to the construction of the property, with stamp duties then paid on this tax-inclusive total.

### Stamp duties on new residential properties and the interaction with GST

When the GST was introduced in 2000 it led to an increase in the cost of property construction as the inputs to construction now attracted the tax. This meant that new properties attracted taxes in two forms: GST and stamp duties, in addition to other existing charges. The short term response was marked, with a large spike in construction prior to the GST coming into place, and a subsequent drop in construction activity (estimated by Treasury to reduce GDP growth by around 1.25% in that year), before construction activity settled back at levels close to the longer term trend.

Because properties are long-lived assets, GST impacts consumption in a way that is conceptually different from other goods and services. Property provides a consumption flow each year, however, by being raised up-front upon construction of a new property, GST more closely mimics the effect of a stamp duty, albeit one that is paid once on construction of a property and not on secondary transactions.

Stamp duty is paid on the GST-inclusive price of property. The combined effect of these taxes on construction costs of new properties can be significant. Previous analyses have estimated that the combination of GST and stamp duties on new property amount to around 12-15% of the total cost of constructing a new property.

In total, it is estimated that stamp duties on new residential property raise around \$3.9 billion for the states and territories annually, or around one quarter of total stamp duty revenues (5% of total state tax revenues). Current policy discussions are raising the prospect of a further increase in the GST to 15%. Should this occur in the absence of a reduction in stamp duties this would lead to a further rise in the cost of new dwellings, equal to around 4-5% of total construction costs depending on the jurisdiction and cost of construction.

This 4-5% is approximately equal to the current component of stamp duties on new dwellings. That is, a removal of stamp duties on new dwellings, in the context of a rise in the GST rate to 15%, would leave the total burden of taxes on new dwellings approximately unchanged. Should the GST increase in the absence of changes to stamp duties on new dwellings there would likely be a reduction in supply as investment leaves the property market in search of higher yields elsewhere.

### Summary

Stamp duties on conveyances are among the least efficient taxes collected by Australian governments, with additional costs in terms of equity and revenue certainty. Yet they continue to form a significant part of state government revenues. By removing stamp duties and replacing them with more efficient taxes the gains to Australia are potentially large. Modelling in this report places these welfare gains in the order of \$6 billion to \$10 billion, with smaller but still significant gains in terms of GDP (of between \$3 billion to \$4 billion depending on whether residential duties are removed). Further, it is difficult to capture all of the costs from stamp duties, such as the impacts on labour supply or business

decisions, in this modelling and it is therefore likely to understate the true benefits of removing stamp duties to the extent that these benefits are realised.

Yet these gains can be had without significant impacts on the housing market. The empirical research on the impact of property transaction taxes shows that they tend to fall largely on property sellers, meaning that a removal of stamp duties would leave the tax-inclusive property price unchanged. Over time, the market is expected to respond to the higher after-tax return on property investment by expanding the stock of properties, likely placing downward pressure on prices and improving affordability.

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# 1 Introduction

Deloitte Access Economics has been commissioned by the Property Council of Australia to investigate the economic impacts of removing stamp duties on conveyances in each of the states and territories in Australia. Stamp duties currently raise significant revenues for the states, and average around a quarter of total state tax revenues. Hence, while their removal would require replacement of state revenues, the efficiency costs of including them in the tax structure is also magnified by their size.

This work investigates several aspects of the impact of stamp duty abolition:

- The impact on the property market, with a particular focus on prices and transaction volumes;
- The state government revenues to be replaced from a removal of all stamp duties on conveyances, from a removal of stamp duties on non-residential property transactions only, and from the removal of duties on new residential properties only; and
- The economic benefit at the state level (in terms of employment, GDP and welfare) from replacing stamp duties with a more efficient tax.

Stamp duties will not be removed in isolation, with reduced state revenues likely made up for by an increase in more efficient taxes. The choice of tax used to make the abolition revenue neutral will influence the findings on the economic benefits from reform and the impact on the property market. For the economic modelling it is assumed that stamp duties are replaced in a revenue neutral way by an increase in the GST. This is not meant to infer that GST is the preferred replacement for stamp duties, and the modelling does not investigate any distributional implications of a shift to higher GST. Instead GST is simply chosen as one of a range of possible replacement options.

While the efficiency costs of stamp duties are relatively well understood, previous quantitative estimates of their economic costs have tended to understate them due to difficulties in modelling all aspects of the inefficiency. Economic models have been able to account for the impact that duties have on the allocation of capital to the property sector (that is, that stamp duties lead to under-investment in property) but not the allocative inefficiencies from the transaction costs created leading to the inefficient distribution of properties across the population. A key focus of this report is therefore taking the analysis beyond that covered elsewhere to study and explicitly account for these additional costs.

The economic modelling is undertaken using Deloitte Access Economics' in-house computable general equilibrium (CGE) tax model which contains a detailed structure of the Australian economy and tax system. It is based on the MMRF model produced by the Centre of Policy Studies. The model has been updated based on the most recent ABS state tax data and produces estimates of the relative efficiency of taxes similar to that in the most recent Commonwealth Treasury modelling for the Tax White Paper process. The Australian Bureau of Statistics (ABS) and relevant state Treasuries only produce stamp duty revenue figures at the aggregate level, and various assumptions have been made to separate these into their residential and non-residential components, and for new versus

existing homes. These assumptions are identified in the report. All modelling results and ABS data on taxation revenues are reported in 2013-14 dollars.

The remainder of this report is set out as follows:

- Section 2 provides a broad outline of stamp duties in Australia, including their structure across states, the revenue they raise, and previous studies that have outlined their inefficiencies;
- Section 3 analyses the impacts of stamp duties on the property sector specifically, detailing the price, volume and other impacts of stamp duties on the sector;
- Section 4 provides economic modelling of the potential benefits from removing stamp duties, on both residential and non-residential properties;
- Section 5 examines the impact of stamp duties on new property construction and the interaction with GST on those dwellings.

## 2 Background

Stamp duties on conveyances provide a significant revenue stream for state governments, amounting to around one quarter of all state tax revenue. But this revenue comes at a significant cost to the economy. All recent studies on the cost of various taxes to the economy place stamp duties on conveyances at the more costly end of the efficiency spectrum. This section outlines the use of property stamp duties around Australia, estimates the revenue currently raised through stamp duties on residential and non-residential conveyances, and summarises the efficiency arguments against stamp duties.

### 2.1 Stamp duties in Australia

Stamp duties on conveyances are one of the key revenue sources for state and territory governments in Australia. They are ranked second in terms of revenue capacity for state taxes (behind payroll taxes), and contributed around 23% of total state taxation revenues at the national level in 2013-14, the most recent year for which data is available (see Table 2.1 below).

Table 2.1: Stamp duty share of state tax revenue, 2013-14

State and Territory	Total tax revenue (\$m)	Conveyance stamp duty revenue (\$m)	Stamp duties as a % of total revenue
NSW	24,362	6,045	25%
VIC	16,992	4,261	25%
QLD	11,846	2,403	20%
SA	4,107	789	19%
WA	8,594	1,955	23%
TAS	957	154	16%
NT	566	142	25%
ACT	1,296	227	18%
Total	68,720	15,976	23%

Source: Australian Bureau of Statistics, Catalogue number 5506.0

Across all states, stamp duty rates increase with the value of the purchase. Some states (Victoria and Western Australia) apply different rates to investment and owner-occupier properties, and all states allow some exemptions or concessions. These exemptions are typically granted to first-home buyers, pensioners, or other people likely to experience difficulty in entering the housing market. Each state and territory has a unique rate schedule, ranging from as low as 1% of property value for low value properties, with a maximum rate between 4.5% and 6% across all states (for a full rates schedule, see Appendix B).

As outlined below, there have been numerous calls for stamp duties to be abolished and replaced by more efficient state or federal taxes. However, to date there has been relatively slow progress on this front. In 2012 the ACT announced that it would progressively phase out stamp duties (among other changes) over a 20 year period to be

replaced by municipal rates, thereby swapping a tax with a high economic cost for one with a very low economic cost. More recently the South Australian Government announced that it would abolish stamp duties on non-residential property transactions, citing the high inefficiency costs of these taxes.

## 2.2 The efficiency costs of stamp duties

Stamp duties are one of the least efficient taxes at either the state or federal level. Indeed, the Henry Review stated that 'stamp duties on conveyances are inconsistent with the needs of a modern tax system' and that 'ideally, there is no place for stamp duties in a modern Australian tax system'. Yet Australia raises a proportionately high level tax revenue through stamp duties, at around three times the OECD average.

While stamp duties have historically been attractive due to the relatively simple nature of their collection, the productivity imperative from reforming Australia's tax system would see them being phased out in favour of more efficient taxes over time. This section identifies why stamp duties are considered to be so inefficient and how this manifests in practical terms.

### 2.2.1 What makes a tax efficient?

Taxes are most efficient when they have the smallest impact on the behaviour of individuals, investors or businesses, and therefore retain the efficiencies of markets in allocating activity. All taxes will distort behaviour in some way and therefore create some efficiency costs, but tax policy should focus on choosing the lowest cost mix of taxation for a given revenue, subject to other considerations such as equity and simplicity.

There are various features of a tax that can determine its relative efficiency, that is, its potential to distort activity. Two concepts are particularly important when considering the direct impacts of taxes:

- The incidence of taxation – that is, who ultimately ends up paying for the tax? A tax levied on a buyer may ultimately end up being paid for by the seller if it is passed on as a reduction in the price. Who ultimately bears the tax depends on the relative responsiveness of each party to changes in price, with market forces pushing the tax onto those that are least responsive.
- The impact on activity in a market – the notion of responsiveness above is captured in the idea of the price 'elasticity' of buyers and sellers. The higher the elasticity of demand or supply, the more each group will respond to a price change brought on by a tax, and the more distorting the tax.

Efficient taxes will therefore be levied on those markets where either the demand or supply side is relatively inelastic (unresponsive). There are various features of taxes that can affect the responsiveness on either the supply or demand side of the market:

- The availability of substitutes – taxing a good that has a close substitute will lead to a relatively large distortion as activity leaves the taxed market for the untaxed market;
- The narrowness of the base – a broader based tax will reduce the propensity for activity to leave one market in favour of an untaxed substitute. For example, a broad-based

consumption tax can be efficient because it leaves the relative prices of different goods unchanged;

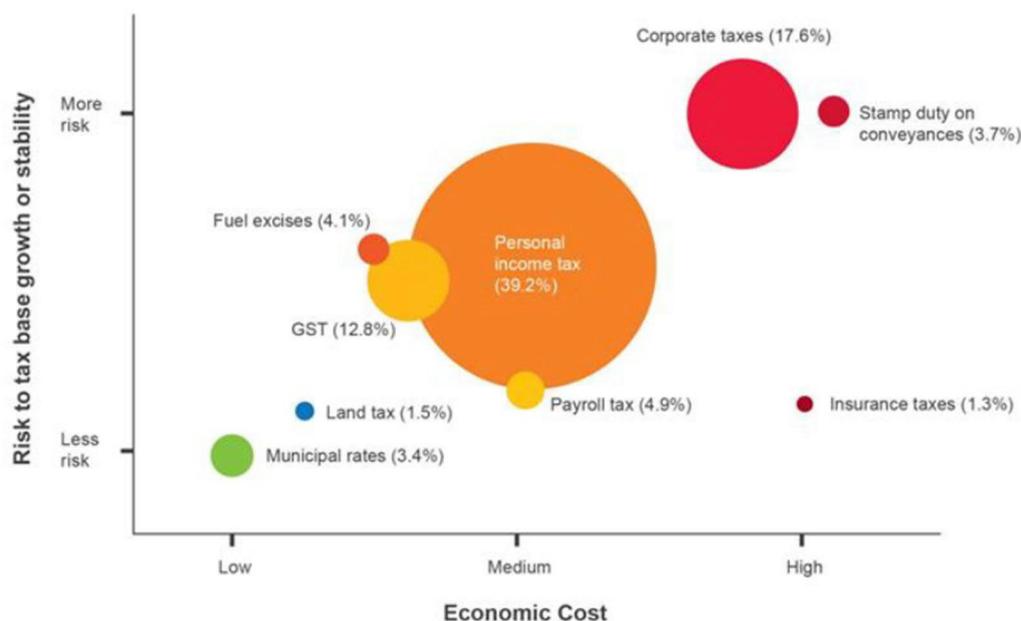
- The degree of exemptions – as above, exemptions to taxes can create distortions within a given tax base by distorting activity to that part of the market that is exempted. Payroll tax exemptions, for example, may favour smaller businesses over large businesses and lead to an inefficient reallocation of production activity;
- The mobility of the base or the factors employed in production of the good – taxes on mobile factors will be more distorting as they can more easily move between markets to avoid the tax.

The impact of any tax ultimately falls on the factors of production as it is these groups that have claim to income earned from production. These are most simply divided into labour, capital and land. The relative mobility of each factor determines the efficiency of taxes levied on them:

- Capital taxes tend to be relatively inefficient as capital is highly mobile and can more easily move across markets and jurisdictions;
- Taxes on labour tend to be relatively more efficient but can distort behaviour by reducing labour supply, and by reducing income they can reduce tax revenue earned through taxes on consumption; and
- Land is largely fixed in supply and immobile, making it a relatively efficient source of tax revenue, albeit one that is made significantly less efficient due to the multitude of exemptions, and other features that land tax arrangements typically entail.

Economic estimates of the costs of various taxes tend to follow this theory closely. Broad based taxes on goods with relatively low capital components tend to have relatively low estimated efficiency costs, while those on narrow bases with a large capital component tend to receive high efficiency cost estimates. The figure below, taken from a recent Treasury speech by Roger Brake, demonstrates the relatively wide spectrum of efficiency of Australia's various taxes.

Figure 2.1: Australia's reliance on taxes by revenue (size of circle), volatility and cost



Source: The Treasury, presentation by Roger Brake, An inside perspective on the Tax White Paper

The figure shows that stamp duty is the most costly (and volatile) of Australia's major taxes. The following section builds on the theoretical discussion above to outline why stamp duties are considered so costly.

## 2.2.2 Why are stamp duties so inefficient?

Stamp duties perform relatively poorly against almost all of the efficiency criteria outlined above. They are effectively a tax on the capital component of properties. This reduces the return on the capital invested in property and will lead to a reduction in investment overall as capital flows to alternative sources which yield a higher after-tax return. Over time this will lead to a reduction in the value (quantity and quality) of property until the after-tax return increases to match the returns that could be used elsewhere.

While nominally stamp duty rates may not appear high, this may understate their true cost. Many other taxes, such as most consumption taxes, are raised on the value-added component of production rather than the whole price of the good. Since stamp duties are based on the value of a housing transaction, and not just the value that is created through the transfer of ownership, the cost they impose on transactions is relatively high.

Indeed, the Treasury estimates that stamp duties comprise around 45% of the total cost of housing transactions. This highlights the second main source of the economic cost of stamp duties: they create an inefficient disincentive for transacting properties. This means that properties may remain in the possession of businesses that do not make the most productive use of them, or that houses are owned by those that do not place the highest value on them.

That is, not only do stamp duties lead to an inefficiently low level of investment in property, they lead to an inefficient allocation of the property stock, whether residential

or non-residential. These costs may manifest in either real economic costs or through more direct welfare costs to consumers. For example:

- By increasing the costs of moving, stamp duties may decrease labour mobility and overall labour supply and productivity in the economy;
- They can increase the costs of businesses efficiently restructuring or relocating;
- They can increase the costs of commuting, whether directly to the homeowner or indirectly through their impact on congestion and pollution;
- As owners are discouraged from transacting properties, stamp duties can prevent efficient up-sizing or down-sizing of property across the population; and
- Stamp duties can discourage moving for personal reasons, such as to be located closer to friends or family.

These costs need not be small. Estimates contained in this report place the cost of stamp duties due to this allocative inefficiency at broadly similar levels as those of the inefficiently low levels of investment. As noted in Appendix, this property misallocation cost alone may be in the vicinity of 30 cents lost economic value for every dollar of tax revenue raised. This alone would make stamp duties more costly than many other key taxes, such as income taxes, payroll taxes and GST, and when added to the investment effects of stamp duties the total cost is larger still. This estimate is similar to those contained in the recent Treasury modelling for the Tax White Paper, which found that a marginal excess burden of 73 cents for every dollar of stamp duty revenue raised.

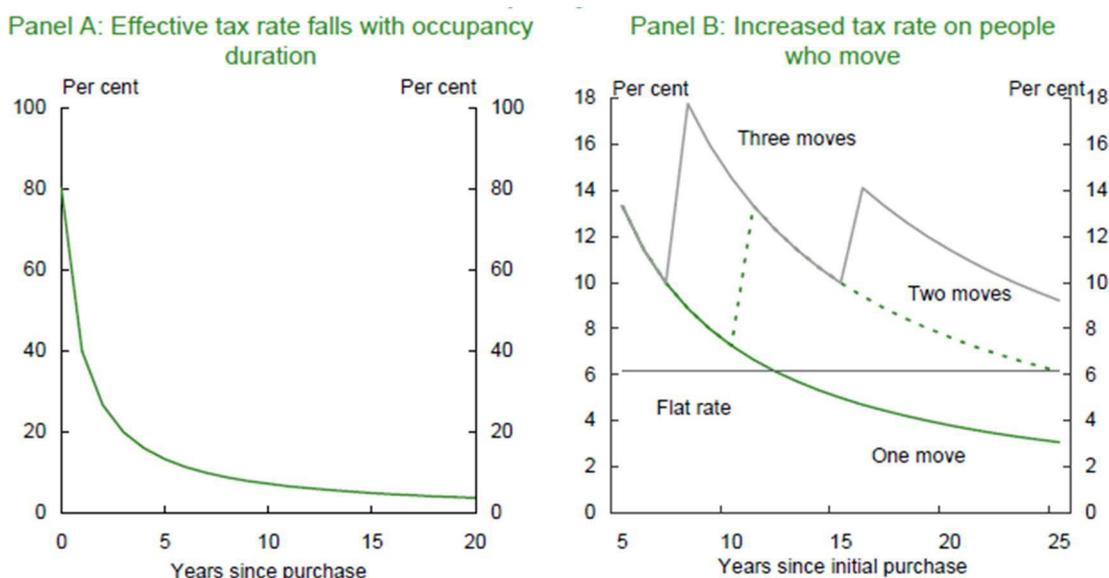
### 2.2.3 What are the other costs of stamp duties?

While the focus has been on the efficiency of stamp duty above, there are other features of taxes that may contribute to making them more or less desirable. This includes consideration of simplicity, fairness or equity, and revenue certainty. While stamp duties are certainly relatively simple to collect, this is perhaps less important in the modern economy where information on transactions and individuals is relatively simple and cheap to collect. This section identifies some features of stamp duties that make them less desirable from a fairness and certainty perspective.

While most taxes are based on either a flow of income or consumption, stamp duties are paid only at the point of sale. While levied on property, they are not a tax on the consumption of property as such, but instead on its transfer, and the two may not align. By taxing the transfer, rather than consumption of property, they can be relatively ad-hoc and fall on individuals or businesses which happen to move more frequently, for whatever reason.

The Henry Review drew out this point in the following two diagrams, showing that the effective tax rate falls with occupancy duration and can be relatively volatile over time depending on the frequency with which a business or individual moves property. Two otherwise identical individuals or businesses could face significantly different tax bills depending on external circumstances or preferences which dictate their moving frequency, a feature of stamp duties that clashes with notions of fairness or equity.

Chart 2.1: Variation in stamp duty burden by rate of transaction

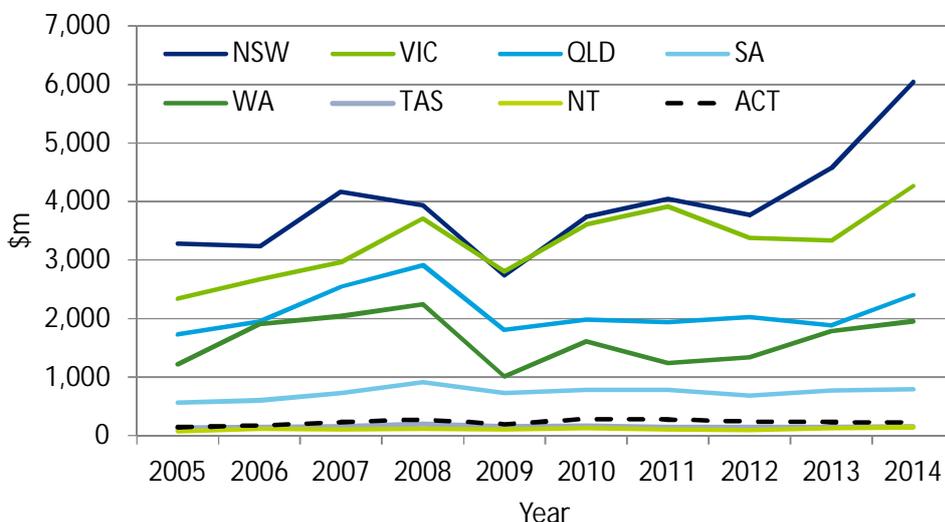


Source: Henry Tax Review, 2010, Chart C2-4, based on Treasury estimates

Note: The effective tax rates are calculated as the ratio of stamp duty (assumed to be \$20,000) to the value of imputed rent over the period the property is owned (assumed to be \$25,000 per annum). In Panel B, the 'flat rate' reflects a constant tax on imputed rent, with the rate equal to the effective rate faced by a person making two moves in 25 years (which is not average but intended to be indicative).

In regards to revenue certainty, stamp duty is a volatile revenue stream for state governments. As revenue only accrues upon the transfer of property, the amount of stamp duty raised each year is tied to turnover and pricing in the housing market. Global events and financial uncertainty has led to a slow-down in housing consumption and price growth at several junctures over the past decade, with stamp duty collected falling on at least two occasions within all states and territories (Chart 2.2). The instability of this revenue stream is undesirable for state governments, as the uncertainty adds some complexity in planning future expenditure.

Chart 2.2: Stamp duties on conveyances



Source: ABS catalogue number 5506, Australian taxation revenue, 2013-14

## 2.3 The capacity for states to reduce stamp duties

The values in Table 2.1 demonstrate the significant portion of tax revenues states receive from stamp duties. They also show the relatively large differences in this proportion across states. The large proportion of revenues collected from stamp duties (and perhaps also the relative infrequency with which individuals and businesses pay them) are likely to reflect the political difficulty associated with their replacement.

Nonetheless, some jurisdictions have moved to reduce, or abolish, stamp duties in recent years. The ACT, as noted above, is currently phasing out all stamp duties on conveyances over a 20 year period, while the South Australian Government has recently committed to abolishing stamp duties on non-residential properties only.

This section outlines the revenues earned through non-residential stamp duties in each state and territory, as well as the revenue earned on stamp duties on new residential dwellings. Chapters 4 and 5 then analyse the impacts of separately reducing stamp duties on each of these classes of property.

There are no publicly available sources that separately identify stamp duty revenue by these splits, and estimates have had to be made by building on that data that is available. The section below provide these estimates, as well as the assumptions made.

### 2.3.1 Stamp duty revenues on non-residential properties and new residential properties

Table 2.2 below shows Deloitte Access Economics' estimates of conveyancing stamp duties in each state and territory in 2014 from residential property transactions only and the revenue from new residential property transactions only. Non-residential stamp duty revenue is therefore the difference between total revenues and residential revenues.

The proportion of stamp duties collected from residential property transactions in each jurisdiction is based on a calculation of the use of land as an input to production across different industries, including the industry 'ownership of dwellings'. This is based on national accounts data relating to production and the inputs to production in different industries. The percentages in Table 2.2, ranging from 82% in the Australian Capital Territory to 68% in Western Australia, are in fact based on national accounts data from a number of years.

To calculate a percentage for the value of conveyancing stamp duties that is collected through the transfer of residential property we calculate the 'use' of land (land is obviously not used up in the same sense that other inputs are, but there is an expense associated with the use of land) in all industries, separating out use in the ownership of dwellings sector (residential property), and assume that the use of land in the production process (the process of generating value added) is proportional to the value of land transacted.

Table 2.2: Stamp duties in 2013-2014

	Conveyancing stamp duties 2014 (\$m)	% from residential property transfers	Value from residential (\$m)	% of residential from new dwellings	Value from new dwellings
NSW	\$6,045	80%	\$4,825	23%	\$1,098
Vic.	\$4,261	78%	\$3,321	41%	\$1,356
Qld.	\$2,403	77%	\$1,848	26%	\$477
SA	\$789	77%	\$604	28%	\$168
WA	\$1,955	68%	\$1,339	47%	\$634
Tas.	\$154	75%	\$115	17%	\$20
NT	\$142	80%	\$114	49%	\$56
ACT	\$227	82%	\$186	54%	\$100
Australia	\$15,976	77%	\$12,317	31%	\$3,855

Source: Deloitte Access Economics, Australian Bureau of Statistics

The percentage of conveyancing stamp duties collected on residential property transactions from new dwellings is based on calculation of the value of new dwelling transfers as a percentage of the total value of transfers of dwellings. Specifically, the percentage of all residential dwelling transfers made up of the value of the transfer of houses (calculated using the median price of houses transferred and the number of houses transferred in ABS 6416.0 Residential Property Price Indexes: Eight Capital Cities, Jun 2015) has been multiplied by the number of homes completed as a percentage of the total number of houses transferred (calculated using ABS 8752 – Building Activity, Australia, Jun 2015 and ABS 6416.0 – Residential Property Price Indexes: Eight Capital Cities, Jun 2015) with an equivalent calculation performed for non-house dwellings.

As an example, consider the case of New South Wales in 2014:

- Houses made up 66% of the total value of residential properties transferred, with the remaining 33% being attached dwellings;
- The number of new houses was 19% of the number of houses transferred. That is, approximately one in five properties transferred were new houses, while the other four were existing houses;
- For other residential dwellings the corresponding figure was 30%;
- Therefore, it is estimated that 23% of the value of residential property transactions was associated with new properties. This is calculated as:  $66\% \times 19\% + 33\% \times 30\%$ .

The estimated values are very similar to what would be calculated by looking at population change alone. That is, assuming the housing stock grew in line with population more broadly, the estimated stamp duty revenue from new residential construction would closely match the values above.

Table 2.3 below summarises the proportion of stamp duty revenue that is raised from non-residential property transfers and new residential property transactions. While there is some variation across states, at a national level each accounts for just under a quarter of total stamp duty revenues. In terms of total state tax revenues this is smaller, at around 5% for each.

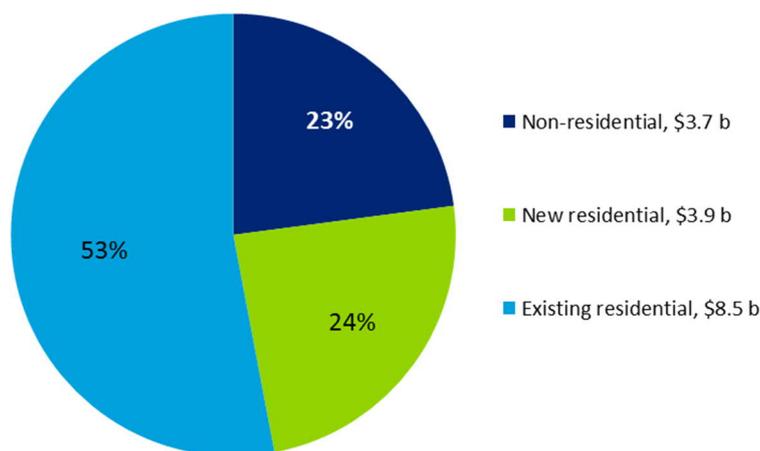
Table 2.3: Stamp duty revenues from non-residential and new residential properties

Jurisdiction	Stamp duty revenues from non-residential properties		Stamp duty revenues from new residential properties	
	(\$m)	Share of total	(\$m)	Share of total
NSW	1,220	33.3%	1,098	28.5%
Vic	940	25.7%	1,356	35.2%
Qld	555	15.2%	477	12.4%
SA	185	5.1%	168	4.4%
WA	616	16.8%	634	16.4%
Tas	39	1.1%	20	0.5%
NT	28	0.8%	56	1.5%
ACT	41	1.1%	100	2.6%
<b>Australia</b>	<b>3,659</b>	<b>100%</b>	<b>3,855</b>	<b>100%</b>

Source: Deloitte Access Economics

The chart below shows the split of stamp duty revenues by existing residential, new-residential and non-residential properties. The latter two make up approximately one quarter each of total stamp duty revenues, with existing residential transactions comprising 53% of the total.

Chart 2.3: Breakdown of stamp duty revenue by property type



Source: Deloitte Access Economics

While these represent sizable revenues, they are significantly smaller than total stamp duty revenue, and are therefore likely to be more feasible politically than a wholesale abolition of stamp duties (which itself would certainly be justified from an economic perspective). The following sections identify the impacts of abolishing stamp duty on the property market and the economy more generally, with scenarios that include the abolition of non-residential stamp duties alone.

## 3 The impact of stamp duties on the property market

While stamp duties will have economy-wide efficiency effects, the most direct impact of their reduction, or abolition, would be felt in the property market. As with any tax, stamp duties reduce the overall quantity of output in the affected sector (that is, reduce the investment in the housing stock) and impact price by creating a wedge between the price which sellers receive and that which buyers pay. The property market is also characterised by an active secondary market, in which existing properties change hands, and stamp duties as a tax on transactions will reduce activity in this market as well.

The extent to which the incidence of stamp duties is borne by buyers or sellers of property, and their effect on transaction volumes, are ultimately empirical questions. This section investigates the findings from the research literature on the effects of property transaction taxes and summarises their implications for the abolition of stamp duties in Australia.

### 3.1 How are duties capitalised into property prices?

In understanding the economic impacts of stamp duty, and taxes in general, economists distinguish the concepts of legal incidence and economic incidence. While the legal tax liability is borne by property buyers, if the incidence of a tax serves to lower the pre-tax prices for property, then it is property sellers who bear (at least part of) the ultimate burden of the tax. In this sense the economic incidence of the tax is shared between both property buyers and sellers.

In theory, the share of a tax borne by each side of a transaction is determined by the relative price responsiveness of the demand and supply side of the market. Whichever is least responsive to price will bear more of the economic incidence. This is illustrated in the figure below.

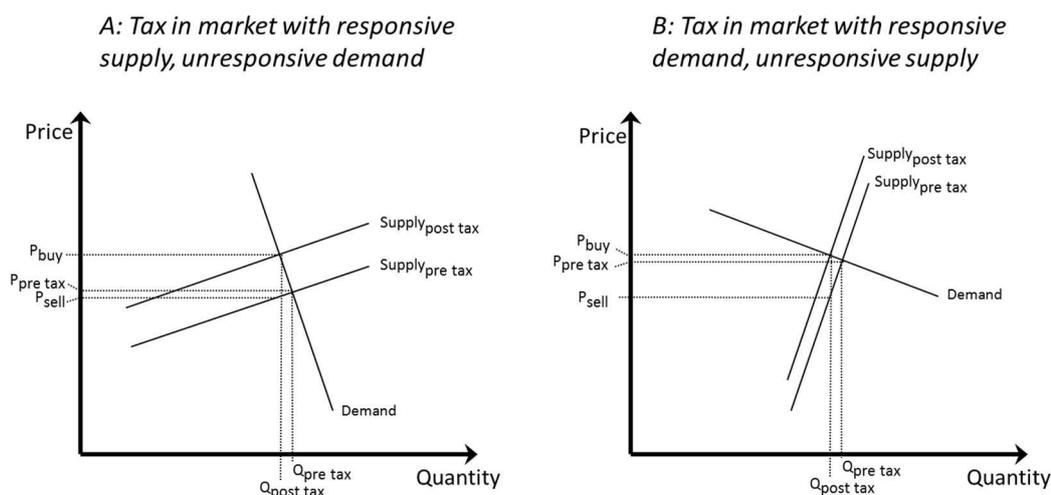
In case A, the demand curve is steep, showing that large price changes result in small changes to quantity demanded (this is the property purchasing side of the market). The supply curve (the property suppliers) is relatively flat, with small price changes leading to large changes in supply. In this type of market, the incidence of a tax, depicted as a wedge on supply, leads to a price for buyers much higher than the pre-tax level. The selling price is relatively close to the pre-tax price. Hence the economic incidence of the tax is said to fall predominantly on the buyer.

Buyers can choose to rent (noting the interaction between the rental and ownership market) move somewhere else, or invest their funds in an alternative asset. However, sellers have fewer options (besides the temporal response of deferring the sale) and are largely forced to bear the burden of the tax. Sellers cannot move land to sell it in the jurisdiction with the lowest tax, and given land is not 'produced' like conventional goods and assets, sellers cannot choose to lower production in response to a tax. Hence, sellers

are less responsive to stamp duties than buyers, and so incur the majority of the economic incidence of stamp duties.

Given the presence of the secondary market for property, most participants will be both buyers and sellers in the longer term. This in effect means that, while the direct effect of stamp duties are on buyers for each individual transaction, the suppressing effect of stamp duties will be realised by both buyers and sellers.

Figure 3.1: The impact of tax incidence under two types of markets



In case B of Figure 3.1, the supply curve is relatively steep, and the demand curve is relatively flat. This is the more applicable scenario for the property market given the relative responsiveness of the demand side, owing to the larger number of substitute options to property purchases. In the presence of a tax, such as stamp duties, the purchasing price (that is, the price of property inclusive of taxes) is closer to the pre-tax price. The selling price (that is, the price received by property vendors) is much lower than the pre-tax price. Hence, in this case the economic incidence of the tax is largely borne by the seller.

While the theory would indicate that sellers are likely to bear the majority of a property transaction tax, the extent to which this occurs in practice is ultimately an empirical question. A number of studies have attempted to ascertain the extent to which property taxes are borne by sellers.

In Australia Ian Davidoff and Andrew Leigh (2013) examine the average stamp duty increases between 1993 and 2005 due to bracket creep. Their analysis indicates that a 10% effective increase in stamp duties leads to a reduction in house prices of 3%. Consistent with the previous discussion, this pre-tax price reduction indicates that the final incidence of stamp duty is fully borne by the seller<sup>3</sup>.

<sup>3</sup> In fact, the results indicate that house prices are disproportionately affected by stamp duties. The authors identify a compositional effect, from the most expensive properties in each suburb, which may be driving the more than proportional response.

Dachis et al. (2012) used an unforeseen stamp duty imposition by the City of Toronto as a natural experiment to understand the impact on transaction volumes. Following the decision, property sales were subject to 2.2% stamp duty, relative to the 1.1% stamp duty in the rest of Ontario. They found similar results to Davidoff and Leigh – pre-tax prices reduced by about the amount of the new tax, meaning the full incidence was passed through to sellers.

Kopczuk & Munroe (2012) reach the same conclusion in examining the so-called ‘mansion taxes’ stamp duties on properties over USD \$1 million in New York, and similar taxes in New Jersey. They also find some evidence that the presence of a stamp duty increases the likelihood that potential sellers leave their real estate agents, suggesting that incidence is partially borne by intermediaries also. This is a secondary finding to the result that the main burden of taxation is borne by sellers. These empirical observations are reinforced by theoretical work done in the Australian context, for example Freebairn (2010).

The implications of these findings is that while notional prices of properties are likely to increase if stamp duties are removed, the after tax cost of purchasing will not (it will simply be that the share previously collected by the government will be held by the seller). There are a number of considerations around the alternative forms of taxation that replace stamp duties. If these are property-based taxes, such as a recurrent tax on property ownership, then these taxes will be taken into account in pre-tax purchasing prices.

In theory house prices are the net present value of a capitalised stream of after-tax rents (for investors) or imputed rents (for owner-occupiers), if markets are efficient and have perfect foresight. These are strong theoretical conditions, but intuitively households will build recurring land taxes into budgets, which will drive the ability to service mortgages, and thus will flow to impact house prices. Hence, the substitution of one property-based tax for another may have little impact on prices. It will however, have a significant impact on property turnover, as discussed below.

## 3.2 How do stamp duties affect transaction volumes?

Stamp duties act as a disincentive for property transactions, since they are triggered by the sale of property. For owner-occupiers of housing property, they form around half of general moving costs, as shown in Chart 3.1. Given stamp duties form a significant part of monetary transaction costs, their incidence has a significant impact on the level of turnover.

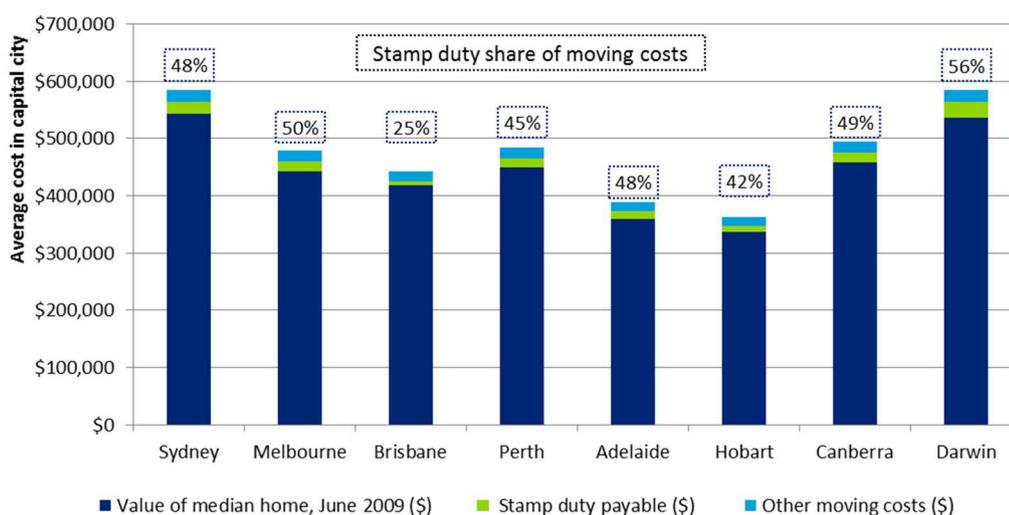
There are a number of empirical studies that estimate the reduction in turnover as a result of stamp duties. Davidoff and Leigh (2013) look at the impact of the growth in stamp duty rates between 1993 and 2005, predominantly due to bracket creep. Over this period, the average stamp duty rate increased from 2.4% to 3.3%, a 37% growth. They find that a 10% change in the stamp duty rate reduces turnover by 3% in the first year, and by 6% if sustained over a three year period.

These findings are comparable in magnitude to international studies. Expressed as a response to a percentage point change in the stamp duty rate (for example, from 2% to 3%), Davidoff and Leigh’s short term response estimate of 8%, is within the range of 8.0% to

12.5% estimated by van Ommeren and van Leuvensteijn (2005), although the base stamp duty rate in the Netherlands is significantly higher, around 6%.

Dachis et al (2012) found that a percentage point increase in stamp duty was estimated to reduce transaction activity by 15%, close to Davidoff and Leigh's long term response estimate. These base rates of stamp duty in this study are closer to the Australian context, although the policy experiment is more localised, meaning that the tax hike is more easily avoided and this may have caused a greater reduction in transactions.

Chart 3.1: Average house prices, stamp duties, and moving costs



Source: The Australian Government the Treasury. (2009a). Australia's future tax system Report to the Treasurer Part Two Detailed analysis (Vol. 1). Note: Other moving costs assume real estate agent fees of 3 per cent on the value of the home as well as a flat \$5,000 cost in all States. Stamp duty payable assumes that the buyer is not entitled to concessions such as first home buyer assistance. These estimates overstate the monetary non-tax costs of moving for those vendors who choose not to engage a selling agent or professional removalists.

Best and Kleven (2013) examined 'notches'<sup>4</sup> between tax rate brackets, to understand the impact of jumps in stamp duty liabilities across price thresholds. This analysis used a bunching approach, which allows greater flexibility and less reliance on control variables. The bunching analysis found that house prices respond between 2-5 times the size of the tax liability notch. The study also examined 'tax holidays', that is, temporary reductions to stamp duty to stimulate the housing market. Under these temporary conditions, a one percentage point reduction in stamp duty was estimated to lead to a 20% increase in property turnover.

Finally, the study examined a change of the bottom threshold of taxation, which removed a 1% stamp duty from a range of house prices. Turnover was estimated to increase by 23%

<sup>4</sup> These notches exist in the tax schedule because the rate increases are not marginal, as in the Australian system. At the time analysed, the UK system specified a jump in the stamp duty rate from 1% to 3% on the entire transaction price at £250,000 (around AUD \$540,000). The tax liability is £2,500 for a house costing £249,999, but £7,500 for a house costing £250,000. This creates a 'notch', where the tax liability jumps £5,000 for marginal increase in the pre-taxation price of the property.

within this range. Hilber and Lyytikäinen (2012) examine the same context of stamp duty notches in the UK, with similar results – a 1.5 percentage point reduction in the stamp duty rate leads to a 30% increase in transaction volume. This is proportional to a 20% increase in transaction activity for a single percentage point reduction in the stamp duty rate.

These empirical studies provide broad evidence that stamp duties have significant impacts on the rates of transaction, and provide a solid underpinning for the economic impact analysis carried out in the next section of this report.

### 3.3 Supply responses in the primary market

The direct impact of any tax on property will be for the quantity of the stock to fall and for the after tax return on investment to decline. However, the property market has some unique features relative to other goods and services:

- Property is consumed over time – while it is purchased up-front, the consumption flows it creates is realised over the life of the property; and
- Property has an active secondary market – taxes on property have the potential to impact activity in both the primary market for the construction of new property, and the market for transactions in existing property.

Each of these features is relevant in the analysis of stamp duties. Because stamp duties are paid up front on property purchases and not over time on the consumption of property (as, for example, a land tax would be) they create distortions in the secondary market by reducing activity. The research referenced above shows that this impact is significant.

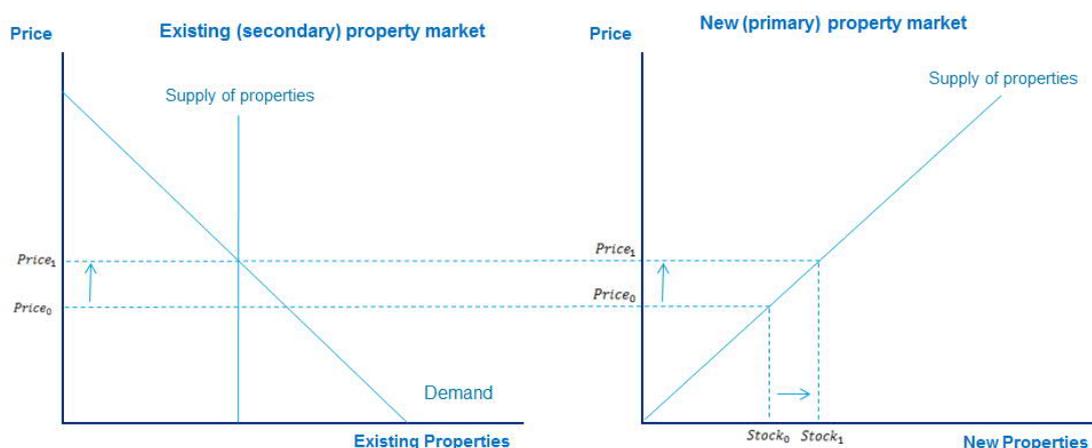
#### Supply responses in the primary market

The primary and secondary markets are clearly linked, as new and existing properties are close substitutes for each other. Rising prices in both markets due to the removal of stamp duties will, however, have conceptually different impacts on overall housing supply.

While the supply of existing properties in the secondary market is effectively fixed, this is not true in the market for new properties, where rising prices will incentivise new construction activity to take place. Developers of new properties will now receive a higher sale price and, with unchanged construction costs, this will lead to higher returns on investment in new property.

This is shown diagrammatically below with the supply and demand diagrams for both new (primary) and existing (secondary) property markets. The removal of stamp duties increases the price at which properties sell as the duties had been borne by the seller. In the secondary market this does not lead to a change in the supply, with prices simply moving to leave the after tax price of property purchases unchanged.

Figure 3.2: Effect of stamp duty removal on the primary and secondary property markets



However, as property prices rise there is a supply response in the market for new properties where supply is able to expand to the new higher price. Increase investment in new properties will occur with the stock of property rising from  $Stock_0$  to  $Stock_1$  in the diagram above. Again, the overall increase in supply resulting from this price increase will depend on the slope, or responsiveness, of the supply curve to price changes. This can be measured using empirical evidence and is discussed in the next sub-section.

Supply may also be stimulated through the removal of stamp duty further up the supply chain, where developers pay duty on the initial purchase of land. This is equivalent to a reduction in input costs. Further, the increased rate of transactions in the housing market may incentivise supply through reducing the time for which developers hold on to newly constructed stock prior to it being sold.

An alternative way of understanding this increased supply is that the removal of stamp duties increases the after tax rate of return on investment in the property sector. Capital will therefore flow into the sector from alternative asset classes, increasing the property stock. This supply response will continue until prices, and therefore the rate of return, fall to levels that equate the rates of return on capital across sectors. This new long run equilibrium, along with the increase in GDP it implies, is modelled Section 4 below.

### How large are these responses in practice?

The magnitude of this supply side response is again something that can be tested empirically. There are a number of studies that examine the price responsiveness of the new housing supply in Australia and similar markets. Ball et al. (2011) review estimation methods of housing price responsiveness. In particular, they demonstrate the progress made to decouple demand-side effects from the supply-side effects. The most relevant estimate of new housing supply price responsiveness is 0.5 for Australia, meaning a 10% increase in prices of new housing leads to a 5% increase in the supply of new housing. This estimate is broadly in line with findings in the US and the UK.

The OECD examine a broader set of countries, with similar findings for Australia and UK (around 0.5), but estimate housing supply in the US to be significantly more responsive (around 2.0). McLaughlin (2011) undertakes a comparison of the supply of different dwelling types in Australia's six major capital cities – Sydney Melbourne, Brisbane, Perth,

Adelaide, and Hobart—using quarterly data from 1983–2010. While the point estimates are not directly comparable, he finds that the supply of multifamily units is more responsive than single-family dwellings.

Hence the longer term supply response from a change in vendor price is the combination of the share of total sales that are new housing developments, and the price responsiveness of new housing supply. In this way, the increase in seller price will lead to an increase in the overall housing stock. An equivalent process will increase the stock of non-residential property in the longer term also. Collectively, these increases in property capital drive a significant share of the positive economic impacts as modelled in the following Section.

## 4 The economic benefits of abolishing stamp duties

The high economic costs of stamp duties mean that there is potential for significant economic gains through replacing these taxes with more efficient state or federal taxes. Effective tax reform could hold tax revenues constant, while leading to a significant efficiency dividend for the economy as a whole. This section models the size of this efficiency dividend at both the state and national levels.

Tax reform is most simply modelled by assuming that the tax mix is switched in a revenue neutral way. This means that there is no overall reduction in the services offered by governments, but that they are simply funded in a more efficient way, with this gain spread throughout the economy. The size of these gains will depend on the tax that is chosen to offset the reduction in revenues from stamp duties, with more efficient replacement taxes leading to larger overall benefits. This report models GST as the replacement tax, although this choice is to some extent arbitrary and does not reflect a recommendation for this tax switch.

Whenever inefficient taxes are replaced with more efficient taxes, there will be a net increase in economic activity. The tax mix switch creates an 'efficiency dividend' that results in additional income to capital, labour, land or all three. Since households are the ultimate owner of all these income sources, analysing the outcomes for households as a whole is the best metric for whether tax reform leads to an improved economic outcome. Indeed, the modelling in this section shows that households would be significantly better off under a revenue neutral removal of stamp duties: on aggregate the economic efficiencies generated by removing stamp duties more than compensates households for their increased GST payments.

A computable general equilibrium (CGE) model is used to estimate these benefits. These are reported in terms of GDP, real consumption (a measure of welfare) and employment per sector. Two scenarios are estimated in this section <sup>5</sup>:

- **Scenario 1** – all stamp duties on conveyances are abolished and replaced in a revenue neutral way with an increase in GST (holding its current base fixed); and
- **Scenario 2** – only stamp duties on non-residential properties are abolished, replaced in a revenue neutral way with an increase in GST (holding its current base fixed).

The second scenario is chosen to reflect the approach taken by the South Australian Government most recently. While each scenario is chosen to be revenue neutral overall, with the GST increased nationally to a rate that will recover the total loss in stamp duty revenue, it will not necessarily be revenue neutral on a state-by-state basis. The final impact at the state level will depend in part on how the additional GST revenue is distributed.

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<sup>5</sup> A third scenario is analysed in the next section, in which stamp duties on new properties alone are removed in the context of a rise in the GST. No economy-wide modelling of that scenario is undertaken, however.

## 4.1 The treatment of the impact of stamp duties on transaction volumes

The discussion in Section 2 indicated that there are two broad efficiency costs created by stamp duties:

- They impose a tax on the capital invested in property and therefore lead to reduced investment in property relative to other asset classes: this leads to a reduction in the overall stock of property; and
- They lead to an inefficient allocation of this remaining stock by increasing the cost of transacting.

Economic modelling of stamp duties has typically only captured the first of these costs. This is because the static models generally used are not well placed to capture the dynamic aspects of reduced transactions. For example, the modelling for the Henry Review estimates the efficiency cost for stamp duties on conveyances to be around \$0.35 for every dollar raised, noting that this did not include the efficiency cost of reduced transaction volumes.

More recently some modelling has attempted to capture this additional cost. The modelling by Treasury for the most recent Tax White Paper incorporated a component to capture the volume effect and estimates the efficiency cost at closer to \$0.75 for every dollar raised. This represents an approximate doubling of the cost of stamp duties.

The modelling in this section also includes a measure of the cost of reduced transaction volumes. The approach taken to estimate this is based on recent econometric modelling in Leigh and Davidoff (2013) of the impact of stamp duties on the property market and is described in more detail in the appendix. The findings from this paper are used as they apply to the Australian market and are closest in style to the exercise here, however, as noted in the previous section they mirror similar findings internationally.

This approach leads to similar increases in efficiency costs as those seen between the Henry Review modelling and the more recent modelling. However, in order to present conservative results, the welfare results in this section are presented for both the investment-only and invest plus volume effects in this section. This can be interpreted as reporting results for a range of transaction volume effects between 0% and the 60% figure implied by Leigh and Davidoff.

## 4.2 Modelled results – Removal of all conveyance stamp duties

The replacement of stamp duties with GST is estimated to lead to significant economic benefits at the national level. It is estimated to lead to an increase in GDP of around \$3.3 billion Australia-wide when all stamp duties are removed (these values are in 2013-14 dollars). This reflects the improved use of resources and investment as activity flows back into the property sector, and related sectors, which initially saw too little investment due to the distorting effects of the tax.

These estimates exclude the effect of stamp duties on transaction volumes because these effects are more likely to be realised through reduced utility that individuals derive from the ownership of property (for example due to a less desirable location of property size) and therefore not have an impact on the real economy. However, it is possible that reduced transactions could impact on the real economy, for example through decisions on labour supply and business location, and to the extent that this occurs the GDP impact above will be an underestimate. Overall, the reduction in transaction volume is likely to be significant – the analysis in Appendix A shows that around 340,000 property owners might otherwise move in the absence of stamp duty.

A more common measure of the welfare for these changes is provided by the change in real consumption. This represents the change in purchasing power that Australians receive as a result of the reforms, and therefore most closely reflects the material wellbeing of the reform. The modelling indicates that **an abolition of all property stamp duties in favour of a revenue neutral increase in GST would lead to a net increase in real consumption of \$6 billion when the impact on the stock of housing alone is considered. Once the additional inefficiency of that stock being allocated inefficiently (the transaction effect) is accounted for this value increases to just under \$10 billion.**

This represents a significant gain from reform. **A \$10 billion increase in real consumption is equivalent to around \$20 per week per Australian household.** To place this in context, average weekly spending per household on fuel and power is around \$37, demonstrating that these welfare gains would represent a meaningful improvement to the welfare of Australians.

### 4.3 Modelled results – Removal of non-residential stamp duties only

When only non-residential stamp duties are removed the overall gains are smaller but still significant, with modelling estimating \$2.3 billion when only those on non-residential properties are replaced. Non-residential stamp duties are relatively inefficient when compared to residential duties, and this means that the benefits of replacing them with more efficient taxes are greater on a per dollar basis. **At a national level, the abolition of non-residential stamp duties is estimated to lead to a net benefit of around \$3 billion when replaced in a revenue neutral rise in GST.**

**When the additional impact from increased turnover is taken into account, the overall economic gains increase to around \$4 billion.** This higher estimate assumes that the impacts on non-residential transaction volumes are broadly the same as those for residential transactions. The effect of reduced transactions will manifest differently to those for residential properties, but are no less real (and in fact may be more direct in their impact on economic activity). As discussed previously, the removal of stamp duty allows businesses to better optimise their choice of location, and use of property in general. Further detail on the economic benefits of greater turnover is provided in Appendix A.

## 4.4 Sectoral analysis of results

As with any set of economic reforms, not all sectors benefit equally from these tax reform scenarios and some may in fact be net losers (Table 1.3). Those which benefit most are those which feed into the property sector, either in terms of construction or ongoing inputs to the consumption of property. For example, the value of activity in the housing construction sector is estimated to increase by 0.73% with the abolition of all stamp duties, while output from utilities will also rise (water supply rises around 0.52%, with slightly smaller increases in gas and electricity supply not shown). The consumption of dwellings itself (thought of as the annual consumption flow that property creates) experiences a greater rise of 0.83%.

Table 4.1: Key sectoral impacts - change in output

Sector	Removal of all conveyance stamp duties		Removal of non-residential stamp duties	
	% deviation	\$m deviation	% deviation	\$m deviation
Consumption of dwellings	0.83	\$1,412	0.49	\$834
Housing construction	0.73	\$585	0.46	\$369
Other construction	0.48	\$1,601	0.36	\$1,200
Water supply	0.52	\$86	0.31	\$51
Other services	0.75	\$192	0.36	\$92
Retail trade	0.31	\$4	0.16	\$2
Motor vehicles and parts	-0.49	-\$322	-0.35	-\$230
Iron ore	-0.66	-\$429	0.15	\$98

Source: Deloitte Access Economics. Dollars are in 2013-14 terms

In contrast, some sectors are likely to lose in net terms as a result of the reforms. Reasons for this include:

- An appreciation in the exchange rate decreasing the competitiveness of exporting sectors (such as mining and motor vehicle manufacturing);
- Resources being drawn to those sectors which increase their activity as a result of the reforms (thereby increasing the cost of production and reducing the productive capacity of competitor sectors); and
- Those sectors which are most exposed to consumption will suffer as a result of the increase in GST.

Offsetting some of these impacts is the general increase in income across the country from the reforms. For example, while retail trade may be expected to be worse off from a higher rate of consumption tax, this appears to be more than offset by increases in incomes. Retail trade will also supply some inputs to the dwelling sector and demand will therefore increase with the additional dwelling activity. These impacts are broadly similar when only non-residential property stamp duties are modelled, but smaller in scale to reflect the lower overall magnitude of the shock on the economy.

Finally, the modelling provides estimates of the changes in employment at the sector level resulting from these reform scenarios. Changes in employment broadly follow the changes in sector-level output above. Those sectors which gain the most in terms of workers are

those that provide the most direct inputs to the property sector: construction (an increase of nearly 5,000 FTEs), retail trade, and other services.

Table 4.2: Key sectoral employment impacts (FTEs)

Sector	Removal of all conveyance stamp duties	Removal of non-residential stamp duties
Housing construction	1,097	651
Other construction	3,749	3,158
Water supply	29	-26
Retail trade	1,838	772
Accommodation and Hotels	1,425	555
Financial services	757	398
Other services	2,647	1,201

Source: Deloitte Access Economics

The model assumes that in the long run the economy maintains full employment. Hence, there is no overall change in employment levels estimated as a result of these reform scenarios. However, the important part of reform is not necessarily increasing the overall level of employment, but using the existing labour force more effectively by transitioning employment to where it creates the most value. This improved efficiency of labour allocation in the economy is part of the driver of increased GDP outlined above.

Finally, the modelling does not take into account all possible impacts of stamp duty abolition. For example, to the extent that the increased propensity to move can influence labour supply decisions, total hours worked, and therefore both labour incomes and income tax, will increase. There is little clear evidence on the size of these effects, and they are likely to be of second order importance relative to the investment and transaction effects that are captured, however they are nonetheless tangible benefits that may result from the removal of stamp duties.

## 5 Stamp duties and GST on new residential property

New residential buildings face a number of taxes and development charges. Indeed, these costs may be in the vicinity of 10-15% of the cost of a median priced house. This section identifies the extent of stamp duties paid on new dwellings as a proportion of total taxes, and analyses a scenario under which stamp duties on all new residential properties are abolished.

### 5.1 The effect of a rise in the GST on new residential dwellings

New properties attract a range of government taxes and charges in each state. Land purchased by developers will incur stamp duties at the point of sale, construction inputs incur GST, and sale of the property to the end owner attracts a further payment of stamp duties. In recognition of the additional costs that GST would impose on new housing construction, the First Home Owner Grant was established in July 2000.

The GST is intended to represent a tax on the flow of consumption. However, when applied in the context of new property construction it has features that mimic that of stamp duties. Because it is applied to the inputs to the construction, it is paid by new property purchasers up-front as construction occurs. The consumption flow created by housing is instead received continuously over the life of the property, but is not subject to a consumption tax. Hence, the effect of GST on new property is not to tax consumption of housing, but rather the up-front purchase of new property (with existing property not subject to this tax).

The combined effect of these taxes on construction costs of new properties can be significant. Work done by the Centre of International Economics estimates that the GST applicable on new dwellings is large, relative to stamp duty: in Brisbane the median Greenfield housing construction, costing \$340,000 after tax in 2010, would accrue 9% GST and 3% stamp duties and transfer fees. In Melbourne, the median Greenfield housing construction, costing \$322,000 after tax in 2010, would accrue 8% GST and 7% in stamp duties and transfer fees.

Similar work by ACIL Allen Consulting (2015) reaches similar estimates. For a typical new house in Sydney it estimates that government taxes and charges amount to around 26% of the cost of a new house. Of this, 8.0% is made up of GST and 4.6% is stamp duties. It estimates these costs to be relatively constant across states, with a typical property facing combine GST and stamp duties of around 12-14%.

Section 2 provided estimates that stamp duties on new residential property raises around \$3.9 billion for the states and territories annually, or around one quarter of total stamp duty revenues. Current policy discussions are raising the prospect of a further increase in the GST to 15%. Should this occur in the absence of a reduction in stamp duties this would lead to a further rise in the cost of new dwellings, equal to around 4-5% of total

construction costs (that is, half of the existing proportion that GST makes up) depending on the jurisdiction and cost of construction.

This increase due to GST alone is approximately equal to the total amount of stamp duty currently raised on new dwellings. In the context of a rise in the GST to 15%, an abolition of stamp duties on new residential dwellings would therefore keep the total tax paid on these properties largely unchanged. It is noted, however, that this would have limited compensatory affect for first home buyers, as many states currently have some form of stamp duty concession for first home owners buying new housing.

If stamp duty is not abolished for new residential dwellings, the total amount of taxes paid on new properties would increase. As described in Section 3, this would reduce the attractiveness of investment on new properties relative to other asset classes, and relative to the existing property market, and likely reduce the supply of new housing to the market.

## References

- Abelson, P and Joyeux, R (2007) "Price and efficiency effects of taxes and subsidies for Australian housing", *Economic Papers*, 26(2): 147 – 169.
- ACIL Allen Consulting (2015) *Modernising Australia's Tax System*, report prepared for the Property Council of Australia.
- Andrews, D, Sánchez, A and Johansson, Å (2011) "Housing and the economy: policies for renovation", *Economic Policy Reforms 2011: Going for Growth*, OECD.
- Aregger, N, Brown, M and Rossi, E (2013) "Transaction Taxes, Capital Gains Taxes and House Prices", *Swiss National Bank Working Papers*.
- Ball, M, Goody, J, Meen, G and Nygaard, A (2011) *Housing Supply Revisited*, School of Economics, University of Reading.
- Best, M (2014) "Essays on the economics of taxation", PhD thesis, London School of Economics and Political Science.
- Best, M and Kleven, H (2013) "Housing market responses to transaction taxes: Evidence from notches and stimulus in the UK", *London School of Economics*.
- Cao, L, Hosking, A, Kouparitsas, M, Mullaly, D, Rimmer, X, Shi, Q, Stark, W and Wende, S (2015) "Understanding the Economy-wide Efficiency and Incidence of Major Australian Taxes", *Treasury Working Paper*, Australia.
- Centre for International Economics (2011) *Taxation of the Housing Sector*, report prepared for the Housing Industry Association.
- Commonwealth of Australia (2009a) *Australia's future tax system: Report to the Treasurer, Part Two: Detailed analysis (vol. 1)*.
- Commonwealth of Australia (2009b) *Australia's future tax system: Report to the Treasurer, Part Two: Detailed analysis (vol. 2)*.
- Commonwealth of Australia (2015). *Re:Think Tax Discussion Paper*.
- Crowe, C, Ariccia, GD, Igan, D and Rabanal, P (2012) "Policies for Macroeconomic Stability: Managing Real Estate Booms and Busts", *International Monetary Fund*.
- Dachis, B, Durantou, G and Turner, M (2011) "The effects of land transfer taxes on real estate markets: evidence from a natural experiment in Toronto", *Journal of Economic Geography*, 12(2): 327 - 354.
- Daley, J and Coates, B (2015) "Property Taxes", *Grattan Institute Working Paper*.
- Davidoff, I and Leigh, A (2013) "How Do Stamp Duties Affect the Housing Market?", *Economic Record*, 89(286): 396 - 410.

- Deskins, J and Fox, W (2010) "Measuring the Behavioral Responses of the Property Tax", in *Challenging the Wisdom of the Property Tax*, Lincoln Institute of Land Policy.
- Economic and Finance Committee (2013) *South Australian Taxation System, Interim Report*.
- Freebairn, J (2005) "A Comparison of Alternative Tax Bases", Melbourne Institute Working Paper Series, Working Paper No. 11/05.
- Gayer, C and Mourre, G (2012) "Property Taxation and Enhanced Tax Administration in Challenging Times", European Commission, Economic Papers 463.
- Goodwin, S (2015) *Submission by the Housing Industry Association to the Commonwealth Government on the White Paper on Taxation Discussion Paper*.
- Government of South Australia (2015) *State Tax Review Discussion Paper*.
- Harris, BH (2013) "New Estimates of Tax Reform's Effect on Housing Prices", Urban Institute.
- Harris, BH (2013) "Tax Reform, Transaction Costs, and Metropolitan Housing in the United States", Urban-Brookings Tax Policy Centre.
- Hilber, CAL and Lyytikäinen, T (2012) "Stamp duty and household mobility: Regression discontinuity evidence from the UK", London School of Economics and Political Science.
- Imrohorglu, A, Matoba, K and Tüzel, S (2014) "Proposition 13: An Equilibrium Analysis".
- KPMG Econtech (2010) *CGE Analysis of the Current Australian Tax System*, report prepared for Commonwealth Treasury.
- KPMG Econtech (2011) *Economic Analysis of the Impacts of Using GST to Reform Taxes*, report prepared for CPA Australia.
- Marcato, G (2014) "Liquidity Pricing of Illiquid Assets", School of Real Estate & Planning, Henley Business School, University of Reading.
- McEachern, WA (2013) *Microeconomics: A Contemporary Introduction*, Cengage Learning.
- McLaughlin, RB (2011) "New housing supply elasticity in Australia: a comparison of dwelling types", *The Annals of Regional Science*, 48(2): 595–618.
- Norregaard, M (2013) "Taxing Immovable Property: Revenue Potential and Implementation Challenges", IMF Working Paper.
- O'Sullivan, A, Sexton, T and Sheffrin, S (1995) "Property taxes, mobility, and home ownership", *Journal of Urban Economics*, 37(1): 107-129.
- Quigley, J (2002) "Transactions costs and housing markets", Berkeley Program on Housing and Urban Policy Working Paper Series, Working Paper No. W02-005.

- Sánchez, AC and Johansson, Å (2011) "The Price Responsiveness of Housing Supply in OECD Countries", OECD Economics Department Working Papers, No. 837, OECD Publishing.
- Sexton, T (2008) "Taxing property transactions versus taxing property ownership", International Studies Program, Working Paper 08-20.
- Slemrod, J, Weber, C and Shan, H (2015) "The Behavioral Response to Housing Transfer Taxes: Evidence from a Notched Change in D.C. Policy".
- Stansel, D, Jackson, G and Finch, H (2007) "Housing tenure and mobility with an acquisition-based property tax: The case of Florida", *Journal of Housing Research*, 16(2): 117-129.
- Stohs, M, Childs, P and Stevenson, S (2001) "Tax policies and residential mobility", *International Real Estate Review*, 4(1): 95–117.
- van Ommeren, J and van Leuvensteijn, M (2005) "New evidence of the effect of transaction costs on residential mobility", *Journal of Regional Science*, 45(4): 681-702.
- van Ommeren, J (2008) "Transaction Costs in Housing Markets", Tinbergen Institute Discussion Paper.
- Wood, G, Ong, R and Winter, I (2012) "Stamp duties, land tax and housing affordability : the case for reform", *Australian Tax Forum*, 331–349.
- Wood, G, Stewart, M and Ong, R (2009) "Housing taxation and transfers", research study for the Review of Australia's Future Tax System.
- Yates, J (2010) "Housing and tax: The triumph of politics over economics", paper prepared for conference on Australia's Future Tax System: a post-Henry review.

## Appendix A: The costs of allocative inefficiency of the property stock

This appendix outlines the approach taken to estimate the additional welfare effects from reduced property transactions. This has typically not been captured by economic modelling of stamp duty reforms, principally because the models used are static, which compare two long run equilibria (one with a stamp duty in place and another without it). Because these models simply compare two long-run stocks of property in the economy, they are not well suited to capture the dynamic effect of taxes on transactions.

The approach here is to first estimate these costs outside of the CGE framework, and subsequently integrate them into the model once the size of the impact has been calibrated. Empirical research analysing the impact of transactions taxes on turnover has been used to estimate what an abolition of stamp duties is likely to mean for the volume of property transactions in Australia. A dollar value of lost welfare per foregone transaction is then estimated, and this allows a total welfare cost to be calculated.

The primary research relied upon in this estimate is the paper of Leigh and Davidoff,<sup>6</sup> which estimates the effect of stamp duties in Australia on both house prices and turnover rates. That paper estimates that a 10% increase in stamp duties leads to a short term reduction in property turnover of 3%, with a larger long term effect of 6%, when a stamp duty change is maintained for three years. These results are comparable to other results found in international research. Other international research has found broadly similar magnitudes of impacts on turnover resulting from discrete changes to stamp duties at points in time (for example through tax holidays of a fixed period) or by analysing 'notches' in the rate structure.

Assuming this result can be extrapolated linearly, it implies that a complete abolition of stamp duties (that is, a 100% reduction in the rates charged) would lead to an increase in property transactions of 30% in the short term, growing to a 60% increase in the longer term (after three years). To place this in context, stamp duties at current levels are around half of the total costs of moving, meaning that they are likely to have a significant impact on transactions.

Leigh and Davidoff's results were estimated using data from 1993 to 2005, where the average stamp duty rate rose from 2.4% to 3.3%, a 37% increase in the rate of stamp duty. Hence this result is being extrapolated 2.7 times, from 37% to 100%, for the purposes of this study. These estimates are similar to the range estimated in a Dutch context by van Ommeren and van Leuvensteijn (2005). Further Dachis et al. (2012) found that stamp duties in the UK reduced transactions by a similar degree as Davidoff and Leigh's long term response estimate. Nonetheless, to recognise the potential difficulties in extrapolating these estimates to an abolition of stamp duties in Australia, this report estimates the

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<sup>6</sup> Davidoff, I., & Leigh, A. (2013). How Do Stamp Duties Affect the Housing Market? *Economic Record*, 89(286), 396–410. doi:10.1111/1475-4932.12056

economic impacts of stamp duties assuming both no change in transaction volumes, and a 60% increase as a sensitivity.

The next step is to place an estimate on the dollar cost to those 340,000 property owners who do not move as a result of the tax. The amount of stamp duty paid places an upper bound on this amount: owners that value transacting above the level stamp duty would continue to do so with the stamp duty in place. Hence, it is those who value transacting by some amount less than the stamp duty payable that are affected by the tax.

The national average stamp duty payable on a residential property in 2014-15 was around \$26,000. Hence, those transactions 'crowded out' by the stamp duty would lead to a welfare loss per transaction of somewhere between \$0 and \$26,000. Assuming a uniform distribution of costs, the average cost of not moving is in the middle of this range, then the total lost welfare is \$13,000 multiplied by the 340,000 lost transactions, or just under \$4.5 billion. Comparing this to the approximate revenue from residential property stamp duties of around \$12.6 billion, [this implies that for every dollar of stamp duty revenue raised, around one third of a dollar of welfare is lost due to the effect on transactions](#) .

In fact, this cost can be shown algebraically to be \$0.30 for every dollar of revenue raised. Following the logic set out above, define:

- N – the annual number of property transactions; and
- X – the stamp duty payable on the average transaction.

Then the total stamp duty currently raised is NX. Using the estimate of Leigh and Davidoff, the number of foregone transactions as a result of the tax is 60% of N, or 0.6N. The average lost surplus per transaction is assumed to be half of the cost of the stamp duty, or 0.5X.

Hence, the total welfare loss is:

$$\text{Welfare loss} = 0.5 \times X \times 0.6 \times N = 0.3 \times X \times N$$

The average excess burden (AEB), that is, the average welfare loss per dollar raised is this amount divided by the total stamp duty revenue raised:

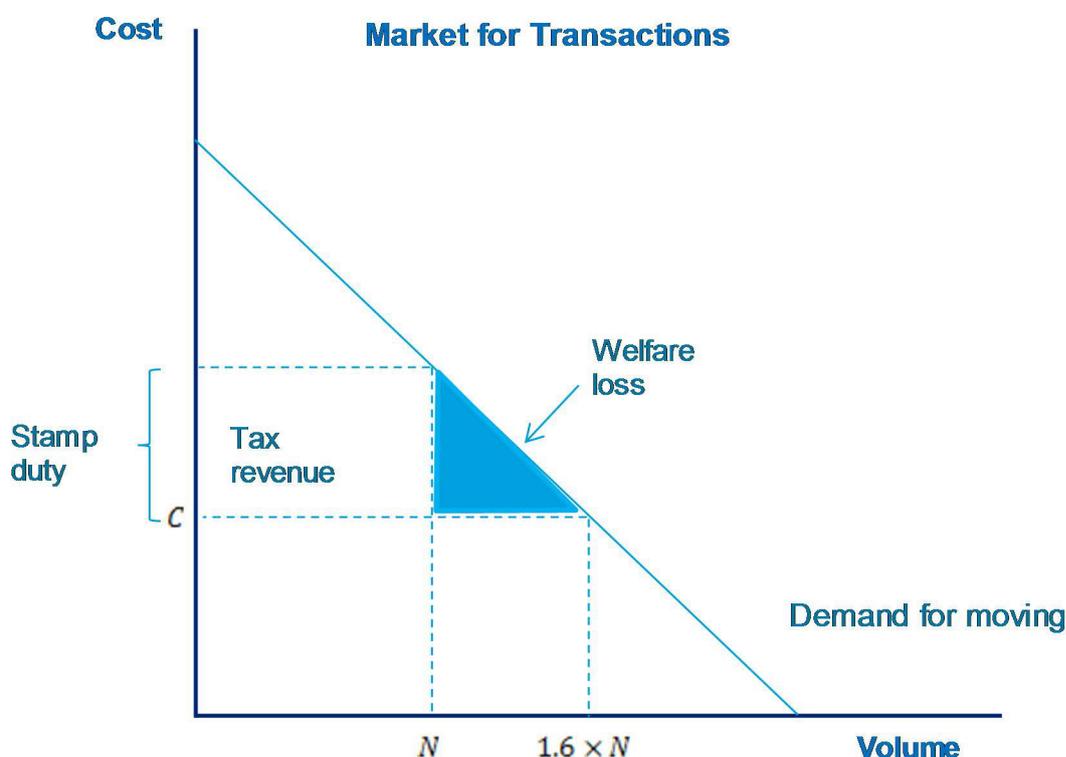
$$AEB = \frac{0.3 \times X \times N}{X \times N} = 0.3$$

Hence, the average cost of the tax is fixed at \$0.30 per dollar raised. This is close to the indicative estimate above based on Australian data. This calculation is also demonstrated below in a standard market diagram showing the welfare cost due to a tax. It shows the market for transactions with a stamp duty currently in place and a total of N transactions. There is a fixed cost of transacting equal to \$C, representing the cost of, for example, real estate and legal services.

Removing the stamp duty increases transactions by 0.6N to 1.6N, with each of these transactions being valued above the fixed cost C, and therefore leading to an increase in welfare. The total welfare cost is shown by the blue shaded triangle, which has area of (0.5)(0.6)NX = 0.3NX as calculated algebraically above. The forgone revenue is the marked rectangle, with area NX.

To calculate the total welfare cost to include in the modelling results, this AEB of \$0.30 is multiplied by the total amount of residential and non-residential stamp duty revenue to convert it to a total welfare cost. This cost is a fall in real consumption (the proxy for welfare) due to the allocative inefficiency of the property stock.

To include in the CGE model, a reduction in multi-factor productivity is calibrated to achieve the same reduction in real consumption as the inefficiency due to a reduced transaction volume. This is not meant to imply that an allocative inefficiency in the property market will cause a reduction in productivity per se, but instead it is simply used as a vehicle through which to incorporate the lost welfare estimate into the model. The final welfare gain from removing stamp duties produced by the model will be the same as if this estimated welfare cost had been added to modelling results without being entered into the model explicitly.



### Comparing the estimated AEB to previous results

The estimation of the transaction volume costs of stamp duties is widely recognised as a difficult component to capture in these modelling exercises. Up to and including the modelling for the Henry Review, only the effect of stamp duties on the size of the housing stock were captured in CGE modelling of tax reforms (including estimates of MEB and AEB).

This difficulty is noted in the KPMG Econtech modelling for the Henry tax review:

Conveyancing duties will: 1. drive a wedge between producer and consumer prices of property; 2. cause some people to switch to renting rather than owning their property; and 3. will cause people to adjust their property consumption less frequently. Standard CGE models do not capture the second and third distortions, because the distortion between renting and buying is not

readily amenable to CGE modelling. The impacts that these distortions have on welfare is also difficult to model.<sup>7</sup>

More recently some exercises, including KPMG's 2011 modelling of GST for CPA Australia, and the more recent tax discussion paper released by the Treasury (which is based on the KPMG model) have attempted to estimate the additional transaction volume effect. They have done so by including an 'ownership transfer cost' market in the model, replicating the market for transactions, and modelling this as an input to the dwelling sector. A tax on this market increases the cost of transferring ownership, leading to a substitution away from transactions, as well as a reduction in the property stock as it becomes on average more costly to hold.

Comparing KPMG's estimate of the AEB of stamp duties between the 2010 modelling for the Henry review (which didn't include this transaction effect), and the subsequent 2011 modelling (which included this additional cost) provides an indication of the addition to the AEB caused by adding the transaction volume effect. The modelling for the Henry Review placed the AEB of conveyance duties at \$0.31, while the subsequent 2011 modelling reported a larger value of around \$0.65<sup>8</sup>. This implies that the AEB estimated to be due to the transaction volume effect is just over \$0.30, and very close to the value estimated here.

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<sup>7</sup> KPMG Econtech. (2010). CGE Analysis of the Current Australian Tax System.

<sup>8</sup> This is the average of the residential and commercial estimates. In practice, given the majority of the property stock is residential, the weighted average will be close to \$0.60.

## Appendix B: Modelling approach

The modelling in this report uses the Victoria University Regional Model (VURM) to estimate the impact of reducing stamp duties and replacing it with an increase in the Goods and Services Tax (GST). VURM5 is a computable general equilibrium (CGE) model of the Australian economy that captures detailed information for all States and Territories of Australia. The model projects changes in macroeconomic aggregates such as GDP (or GSP at the State level), employment, export volumes, investment and private consumption. At the sectoral level, detailed results such as output, exports, imports and employment are also produced.

The model is primarily based on input-output or social accounting matrices, as a means of describing how economies are linked through production, consumption, trade and investment flows. For example, the model considers:

- Direct linkages between industries and regions through purchases and sales of each other's goods and services.
- Indirect linkages through mechanisms such as the collective competition for available resources, such as labour, that operates an economy-wide context.

The base data used in the model are derived from the Australian input-output tables produced by the Australian Bureau of Statistics. The database relate to input-output details for 2005-06, and then subsequently scaled to 2013-14 dollars using observed growth in key macroeconomic aggregates. The model was run in its original aggregation of 64 sectors.

CGE models are widely used in estimating the economy-wide impacts of reforms, such as the taxation reform, because they capture the direct and indirect impacts of such changes. The model is based on a wide range of economic assumptions which are described in more detail in Adams, Dixon and Horridge (2015). The model is run in a long-run comparative static mode. This assumes enough time for changes in taxes to flow through the economy with full adjustment to factors such as labour and capital (around 10 years).

The model considers employment, production, consumption, investment and trade across the 64 sectors represented in each State and Territory of Australia. Interactions between industries are governed by the input-output data that underpin the model, which measures the various inputs required by each industry to produce a certain level of output.

Each sector, or industry, in the model is assumed to maximise profits by combining inputs such as labour, capital and intermediate inputs to minimise costs. Capital and labour are assumed to be mobile between sectors, and the supply of labour is responsive to real wage adjustments (with an assumed elasticity of labour supply to changes in real wages of 0.3). Output is sold in either the domestic market (to other firms, household, the government or as an investment good) or exported (internationally or to another State or Territory). In the domestic market, goods and services can either be sourced from domestic producers or imported. These sources of imports are treated as imperfect substitutes.

Consumption expenditure is allocated between goods and services based on a Klein-Rubin (or Stone-Geary) utility system. This allows consumption of each industry's output to be

sensitive to price changes (own price elasticities). For each good and service in the consumption function there is a fixed, or 'autonomous', level of consumption and a 'discretionary' level. The latter adjusts to maximise utility. Changes in real consumption are then used to measure the economic welfare implications of various changes to taxes.

The model distinguishes between Commonwealth and local/State government sectors. Each level of government imposes a series of direct and indirect taxes.

Estimates of the effective tax rates in the model are primarily based on State and local government tax revenue estimates for 2005-06 from Australian Bureau of Statistics, Taxation Revenue, Cat 5506.0, with additional detail sourced from State budget papers for budget years 2005-06 and 2006-07.

## Appendix C: Current stamp duty rates and structures

NSW	Victoria	Queensland	WA	SA	Tasmania	NT	ACT
Marginal rate applies per \$100 or part of \$100 that exceeds the lower limit of the range.	Marginal rate applies on dutiable value in excess of lower limit.	Marginal rate applies per \$100 or part of \$100 that exceeds the lower limit of the range.	Marginal rate applies per \$100 or part of \$100 that exceeds the lower limit of the range.	Marginal rate applies per \$100 or part of \$100 that exceeds the lower limit of the range.	Marginal rate applies per \$100 or part of \$100 that exceeds the lower limit of the range.		Rate applies per \$100 or part thereof that exceeds the lower limit of the range.
<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>	<u>General duty rates</u>
\$0 – \$14,000	\$0 – \$25,000	\$0 – \$5,000	\$0-\$80,000	\$0-\$12,000	\$0 – \$3000	\$0 – \$525,000	\$0 – \$200,000
1.25%	1.40%	Nil	1.90%	1.00%,	\$50	Duty calculated by	\$20 or \$1.80 per \$100 or part thereof, whichever is greater
\$14,001 – \$30,000	\$25,001 – \$130,000	\$5,000.01 – \$75,000	\$80,001 – \$100,000	\$12,001-\$30,000	\$3001-\$25,000	$D = (0.06571441 \times V^2) + 15V$	\$200,001 – \$300,000
\$175 +1.50%	\$350 +2.40%	1.50%	\$1,520 +2.85%,	\$120 +2.00%,	\$50 +1.75%	where D = duty payable,	\$3,600 plus \$3.00 per \$100 or part thereof
\$30,001 – \$80,000	\$130,001 – \$960,000	\$75,000.01-\$540,000	\$100,001 – \$250,000	\$30,001-\$50,000	\$25,001 – \$75,000	V = 1/1000 of dutiable value	\$100 or part thereof
\$415 +1.75%	\$2870 +6.00%	\$1,050 +3.50%	\$2,090 +3.80%,	\$480 +3.00%,	\$435 +2.25%	\$525,000 – \$3m	\$300,001 – \$500,000
\$80,001 – \$300,000	Over \$960,000	\$540,000.01 – \$1,000,000	\$250,001 – \$500,000	\$1,080 +3.50%	\$75,001 – \$200,000	4.95% of dutiable value	\$6,600 plus \$4.00 per \$100 or part thereof
\$1,290 +3.50%	5.50% of total value	\$17,325 +4.50%	\$7,790 +4.75%	\$100,001-\$200,000	\$1,560 +3.50%	Over \$3m	\$500,001 – \$750,000
\$300,001 – \$1m		Over \$1m	Over \$500,000	\$200,001-\$250,000	\$200,001 – \$375,000	5.45% of dutiable value	\$14,600 plus \$5.00 per \$100 or part thereof
\$8,990 +4.50%	<u>Principal place of residence concession</u>	\$38,025 +5.75%	\$19,665 +5.15%.	\$6,830 +4.25%	\$5,935 +4.00%		\$750,001 – \$1,000,000
Over \$1m	\$130,001 – \$440,000		<u>Residential property</u>	\$8,955 +4.75%	\$375,001 – \$725,000		\$27,100 plus \$6.50 per \$100 or part thereof
\$40,490 +5.50%	\$2870 +5.00%		\$0 – \$120,000	\$300,001-\$500,000	\$12,935 +4.25%		\$1,000,001 – \$1,454,999
	\$440,001 – \$550,000		1.90%	\$11,330 +5.00%	Over \$725,000		\$43,350 plus \$7.00 per \$100 or part thereof
<u>Premium Property Duty</u>	\$18,370 +6.00%		\$120,001 – \$150,000	Over \$500,000	\$27,810 +4.50%		\$1,455,000 and over
(only payable on residential land)	\$550,001 – \$960,000		\$2,280+2.85%	\$21,330 +5.50%			\$5.17 per \$100 applied to the total transaction value
over \$3m	\$28,070 +6.00%		\$150,001 – \$360,000				
\$150,490 +7.00%	Over \$960,000		\$3,135+3.80%				
	5.50% of total value		\$360,001 – \$725,000				
			\$11,115+4.75%				
			Over \$725,000				
			\$28,453+5.15%				

Source: Interstate comparison of taxes 2014-15, NSW Government (2014); Tasmanian Government Department of Treasury and Finance website; ACT Government Revenue Office website

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## Contact us

Deloitte Access Economics  
ACN: 149 633 116

Level 1  
9 Sydney Avenue  
Barton ACT 2600  
PO Box 6334  
Kingston ACT 2604 Australia

Tel: +61 2 6175 2000  
Fax: +61 2 6175 2001

[www.deloitteaccesseconomics.com.au](http://www.deloitteaccesseconomics.com.au)

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