Value Capture and Transport Infrastructure – Public Policy Issues

Nigel Stapledon
Centre for Applied Economic Research
UNSW Business School

This research was supported by a grant by the Urban Taskforce to Professor Kevin Fox and Dr Nigel Stapledon.
Value Capture – Issues

1. What drives the profitability of new transport infrastructure?


3. What do we mean by Value Capture?

4. Why is land tax the most efficient tax

5. Other value capture taxes

6. History – ancient and modern
   • Melbourne rail network in 19th century in part built by private rail companies based on making a profit from the sale of land. These companies failed. But the land they developed(/created) kept land prices low for a long time.
   • Melbourne-Sydney-Brisbane Hi-Speed Rail proposal purports to use value capture. Problem is relies on government to give the new cities a population.
The Profitability of Transport Infrastructure

1. Profitability of the new infrastructure (rail line, motorway)
   - Profitability a function of density – number of passengers.
     - NB: higher frequency adds to value to commuters
   - Outside of Tokyo and HK, most public transport heavily subsidised
   - Australia has a high level of subsidy of public transport due to low density – increased density reduces subsidy which is a benefit to all taxpayers in the city.

| Minimum densities to support Public Transport - people per hectare of urban use |
|-------------------------------------------------|--------------------|---------------|--------------|--------------|---------------|
| For commuter-based lifestyle                     | Low Bus Service     | Intermediate Bus Service | Light Rail  | Heavy Rail  |
| 30-40                                           | 21                 | 31             | 37           | 50           |
| Sydney                                           | Melbourne          | Brisbane       | Perth        | Adelaide     |
| 27.6                                            | 21.1               | 16.6           | 17.0         | 18.0         |
Transport Infrastructure and the Value it Adds

1. Transport infrastructure and land values
   - Transport infrastructure is a NET benefit to the residents and businesses in a city
   - Because in aggregate it lowers land values (rents/prices)
   - For specific areas it increases land values – some substantially
   - A land tax will ‘capture’ that variation

2. Case of a New Train Station
   - NSW Government investing heavily in new heavy and light rail lines.
   - In vicinity of new stations value of land rises substantially – it is this windfall profit to landowner that governments seek to ‘capture’
   - Rise in value contingent on density allowed (by local government)
Impact of lower commuting costs lowers rents and prices in inner areas. Rents and prices rise in outer. Because of lower commuting cost, total cost for outer households is lower. Welfare of community is enhanced.
Figure 2: Urban Land Rent and Prices and Growth with Inadequate Investment in Transport

As population grows, rents and prices rise (P1 to P2) as city expands out and up (becomes denser). If city fails to invest in transport infrastructure, rents and prices will rise more (to P3). All renters are losers, allowing for higher commuting costs in the outer. Some land owners benefit. Welfare of community is diminished.
Figure 3: Change in Land Prices with a New Station

Land Prices in Vicinity of a New Station

- **Price gradient before Station**
- **Gradient with Higher Density Allowed**
- **Gradient with New Station - No Change in Density Allowed**

**Value Uplift**

<table>
<thead>
<tr>
<th>Price</th>
<th>Distance to Station (kms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>0</td>
</tr>
<tr>
<td>80</td>
<td>0.4</td>
</tr>
<tr>
<td>70</td>
<td>0.8</td>
</tr>
<tr>
<td>60</td>
<td>1.2</td>
</tr>
<tr>
<td>50</td>
<td>1.6</td>
</tr>
<tr>
<td>40</td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>2.4</td>
</tr>
<tr>
<td>20</td>
<td>2.8</td>
</tr>
<tr>
<td>10</td>
<td>3.2</td>
</tr>
<tr>
<td>0</td>
<td>3.6</td>
</tr>
</tbody>
</table>
Figure 4: Change in Land Prices with a New Station and Restricted Rezoning

Land Prices in Vicinity of a New Station

- **Price gradient before Station**
- **Gradient with Higher Density Allowed**
- **Gradient with New Station - No Change in Density Allowed**

# Refer Kulish et al (2012) Figure 5

Value uplift where only this property re-zoned
Value Capture – What do we mean?

1. Value capture – refers to a broad range of user charges linked to, or taxes on, the rise in land value.
   • Seen as a source of funding for transport infrastructure

2. Includes: land tax (incl. local government taxes), special zone levies (extra land tax or fee), stamp duties, capital gains tax, development fees, betterment taxes.
   • Other than land taxes and special levies, most are transaction taxes

3. Hong Kong Model – government owns all the land. How relevant to Australia where government does not….??

4. Players
   • Landowners –
     • IF capital gains tax applies, a portion of gain taxed – exemption of owner-occupiers the issue here.
     • IF land tax applied, a portion of gain taxed – incentive to sell if ‘higher value’ use taxed
   • Governments
     ➢ Local Government –
       • potentially benefits as rates based on land value BUT revenue capped
       • decides rezoning – lack of incentive for density
     ➢ State –
       • Owner of transport –incentive for density
   • Developers
     • Intermediaries – transform land to higher use.
     • Development companies as such also own land but most land not owned by developers.
**Value Capture – Land Tax**

1. Land Tax – tax on value of land “naturally” captures value uplift with new transport infrastructure.
   - Henry Tax Review recommended land tax – principally in context of replacing stamp duty on transactions
   - A more efficient tax.
   - Freebairn (2016) ‘Taxation of Housing’ AusER vol. 49, no. 3 also supports.
     - UK Crossrail ‘hypothecates’ a portion of business land tax to new London rail.

2. Current Land Tax – a tiered system which only applies to investor residential and business properties, i.e. exempts owner-occupiers.
   - Henry Tax Review – narrow base makes it inefficient
   - Need to broaden it.
   - A broad-based land tax would lower price of land – narrow base means it adds to rents.

3. Local Government Rates
   - In NSW based on value of land – a form of land tax.
   - Revenue cap means that do not benefit from rise in value

4. State/Local Government.
   - Both ‘collect’ land taxes –
   - Joint collection – modelled on Alberta, Canada

5. Local Government taxes – some observations
   - As proportion of land value highly variable across LGAs
   - Low in high value LGAs – high in low value LGAs
   - Refer Figures 5-7
Figure 5: NSW Property Taxes
Figure 6: NSW Property Taxes

NSW Taxes as % of Land Value

- State land taxes
- LG rates
- Stamp Duty
- Total Property Taxes

% Land Value

1.4
1.2
1.0
0.8
0.6
0.4
0.2
0

1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015
Figure 7: NSW Local Government Rates 2012/13

Sydney LGA Rates applied to Residential Property

Sydney LGA Rates applied to Business Property

Rate per unit of land value

Median Land Value $'000

Rate per unit of land value

Median Land Value $'000
Value Capture – Stamp Duty

1. Stamp duty – as tax on transfer of land – based on value of property (land + structure) will capture a proportion of value uplift
   - Like all transaction taxes, a disincentive to transact.
   - Henry Tax Review, almost every one wants it gone.
   - However, in the absence of land tax on owner-occupiers – a second best form of value capture

2. ACT Government IS replacing stamp duty with broader land tax.
   - Unique position as State/LG in one body – fewer political obstacles.

3. History
   - In US and elsewhere, land taxes were more significant in the first half of the 20th century
   - Anti-Land Tax movements emerged in the 1930s….
Value Capture – Development Contributions

1. State Government
   - On greenfield State Infrastructure Contribution (SIC) applies to developers.
   - In the case of Parramatta light rail, an SIC of $200 per $m^2$ of floorspace (equates to $16-20,000$ per dwelling unit) is being mooted – would be a form of density tax.

2. Local Government.
   - LG imposes s94 development contributions on developers.
   - Also impose voluntary agreements.
   - Notionally linked to the extra services which new households would require the LG to provide.

3. Henry Tax Report
   - Argued that OK if related to the extra cost which a new development imposed. Otherwise it was a tax.
   - Development tax – to extent passed down to landowners, does not lift costs. But, Henry Tax Review did not fully accept this proposition.
   - At the margin it will restrict development;

4. Development Tax vs Quantitative Restrictions on Development
   - Quantitative restrictions (density controls in inner areas, urban growth boundaries in outer) impose high equivalent “development taxes” on development – larger deadweight losses than with taxes.
   - Relative to these quantitative controls, a development tax would be a better second best option.
Figure 8: Land Value and the Players with a New Station

Higher Density Development with a New Station

- Price gradient before Station
- Gradient with Higher Density Allowed
- Gradient with New Station - No Change in Zoning Allowed

Landowner, government and developer "compete" for this surplus

Higher density housing built beyond this point

Developer's costs, including 'normal' profit

Price to Landowner to Sell

Distance to Station (kms)
Figure 9: Development Contributions and Development

Higher Density Development with a New Station and Development Contribution (Infrastructure Levy)

- **Price gradient before Station**
- **Gradient with Higher Density Allowed**
- **Gradient with New Station - No Change in Zoning Allowed**

- Density-linked "infrastructure" levy captures some of the surplus but LESS development

- Developer's costs, including 'normal' profit

- Price to Landowner to Sell
Value Capture – Betterment Taxes

1. Betterment Tax
   • Simple concept – tax on the difference between value of land in current use and value if rezoned to a higher use.
   • Also referred to as a planning gain tax.
   • An indirect capital gains tax on landowner BUT charged through the developer.
   • Parramatta LG proposing a 50% betterment tax - if it stops development,…….

2. Long History of Failure
   • UK – four attempts. In each case led to a blockage in development.
   • Sydney – betterment tax briefly circa 1970.

3. Why failed?
   • Landowners not forced to sell. Want recompense for property (land plus structure), cost of moving, plus some share of the gain. If not, will not sell.
   • Development process not costless. Costs will use up some of the “planning gain”.
   • Final value of land a function of market conditions and how much land is approved for development by the authorities – for developers this a degree of uncertainty. Development is a risky business.

4. Henry Tax Report
   • Argued that OK in concept as tax on economic rent – but in practice, increased uncertainty, generated lengthy disputes and encouraged governments to “create economic rent” through restrictions on development.
   • (Failure by governments to recognise link between restrictions on development and housing affordability.)
Figure 10: A Betterment Tax in Theory

Planning Gain Tax with a New Station

- Price gradient before Station
- Gradient with Higher Density Allowed
- Gradient with New Station - No Change in Density Allowed

50% Planning Gain Tax
Figure 11: Betterment Tax in Practice

New Station and a 50% Planning Gain Tax

- Price gradient before Station
- Gradient with Higher Density Allowed
- Gradient with New Station - No Change in Zoning Allowed
- Developer’s costs, including ‘normal’ profit
- Price to Landowner to Sell

On this scenario, no development occurs.

50% Planning Gain Tax
Figure 12: Betterment Tax if Costs Allowed For

New Station and a 50% Betterment Tax, allowing for costs

On this scenario, development may occur. Uncertain as competing with landowner.

50% Planning Gain Tax

Price gradient before Station

Gradient with Higher Density Allowed

Gradient with New Station - No Change in Zoning Allowed

Developer's costs, including 'normal' profit

Price to Landowner to Sell