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A comparison of property taxes and fees in Sydney and Taipei

Nelson Chan
University of Western Sydney, Penrith, Australia, and
Fong-yao Chen
National Chengchi University, Taipei, Taiwan

Abstract

Purpose – This paper attempts to empirically examine the property taxes and fees for residential development to determine whether they have a significant impact on house prices in Sydney and Taipei.

Design/methodology/approach – Property charges and taxes in Sydney and Taipei are examined and compared. A conclusion is then drawn from the results of the analysis.

Findings – It is found that property taxes and fees account for a substantial portion of property prices in Sydney but not Taipei. There is room for the government to reduce the amount of property taxes and fees to enhance housing affordability in Sydney.

Research limitations/implications – This study has limitations in that only two cities are involved. As such, the findings are not exhaustive or conclusive. When conditions allow, a comprehensive study of all major cities in the two countries should be conducted. Nevertheless, this study does provide some background information about cost components of house prices and the impact of property taxes and fees in both cities. It may serve as a stepping stone for future research.

Practical implications – High property taxes and fees are suspected to be a culprit for causing high house prices. The findings of the paper show that it is true in Sydney, but not Taipei. It implies that by cutting property taxes and fees alone may not solve the high house price problem.

Originality/value – This paper demonstrates that high property taxes and fees have a significant impact on house prices in Sydney. However, their impact on house prices in Taipei is minimal. The difference shows that high property taxes and fees may not be the cause of high house prices in all countries.

Keywords Residential property, Property tax, Prices, Australia, Taiwan

Paper type Research paper

People in many countries are complaining that high house prices are beyond their means. Australia and Taiwan have different levels of economic development. The former has a full membership of the OECD while the latter has observer status. In regard to GDP per capita in 2009, Australia was ranked 10 and Taiwan 20 in 2009 by the International Monetary Fund (Wikipedia, 2010a). Despite the different levels in economic development, people in Australia and Taiwan are complaining about the problem of high house prices. There are many factors for high house prices. High property taxes and fees are suspected to be a culprit for causing high house prices.

The paper attempts to empirically examine the property taxes and fees for residential development in these two countries to see if they have a significant impact on house prices. Sydney in Australia and Taipei in Taiwan are the chosen case study cities. The property charges and taxes in these two cities are examined and compared. It is found that property taxes and fees account for a substantial portion of property prices in Sydney but not Taipei. There is room for the government to reduce the number of property taxes and fees to enhance housing affordability in Sydney.

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1. Introduction

Housing is one of the basic needs of the people (Peardon, 2008; Easton Town Council, 2010), yet it is getting less affordable in many countries. There are many factors for housing problem, such as population growth, land supply, economy, interest rate, employment opportunity, income level, availability of finance, capacity of the construction industry, government regulations and policies, property taxes and fees, etc. (Feldman, 2002; Duncan, 2008; Hensarling, 2009; Power, 2007).

Property taxes and fees are financial burdens imposed by a government on property developers, owners or occupants (Wisegeek, 2010). Property taxes are levied for a number of reasons including raising income for government, for public purpose, for provision of infrastructure to a development/community, or even for land use planning (Needham, 2000). Apart from taxes, governments may levy charges to fund infrastructure for a particular development or community as well. Such charges are known as "infrastructure contributions" in Australia (UDIA, 2008), "infrastructure charges" in the UK (Hodge and Cameron, 1989), and "development impact fees" in the USA (Skaburskis, 1990).

In this paper, it is intended to empirically examine if property taxes and fees have a significant impact on house prices in Australia and Taiwan. Two case study cities, Sydney in Australia and Taipei in Taiwan, are chosen for examination. Through the study, it is expected to find out the similarities and differences in property taxes and fees in the two countries and their impacts on housing prices. It is not intended in this paper to explore the issue of equity of the taxes and fees.

2. Property taxes and fees in Australia, focus on Sydney

Australia has an area of about 7.6 million km^2 and a population around 22 million. The per capita GDP in 2009 was US$38,911 (Wikipedia, 2010a, c). Despite being generally regarded as a lucky country, housing affordability in Australia is in a stringent condition. The current per square metre average price is around US$7,000 (Global Property Guide, 2010). The 5th Annual Demographia International Housing Affordability Survey 2009 reports that out of 64 "severely unaffordable housing markets" in the countries surveyed, Australia accounts for 24 of them (Cox and Pavletich, 2009, Table ES3). The stressful condition, to a substantial extent, is caused by property taxes and fees. The following quotes highlight the problem:

> Australia is perhaps the least densely populated major country in the world, but state governments there have contrived to drive land prices in major urban areas to very high levels, with the result that in that country housing in major state capitals has become severely unaffordable, with median multiples of eight in Sydney and seven in Melbourne (Cox and Pavletich, 2008).

> It is hard to believe that between 20 and 35 per cent of the purchase price for a new house and land package is indirect taxes (HIA, 2003, p. i).

> Government continues to divest itself of cost and risk. Cost and risk is shifted from the federal to state level, from the state to local level and from all three levels to the initial new homebuyer (via the developer), whilst the GST collected during the development process accumulates consolidated revenue for the Commonwealth (UDIA, 2008, p. 2).

It can be seen that property taxes and fees are a big issue in Australia. Taxes are levied at three levels of government, i.e. federal, state/territory, and local level. At the federal government level, the taxes affecting property development include income tax, capital gain tax (CGT), and goods and services tax (GST); these taxes apply throughout the country. Individuals and companies are subjected to different income tax rates.

Personal income tax is collected on a progressive rate basis while company tax is at a fixed rate. Historically, the highest personal income tax marginal rate was at 75 per cent in 1951 and company tax at 49 per cent in 1986 (Reinhardt and Steel, 2006). Today the tax rates have been reduced to 15-45 per cent plus Medicare Levy of 1.5 per cent for person income tax (ATO, 2010a) and 30 per cent for company tax (ATO, 2010b).

CGT was implemented on 19 September 1985. It is a tax on the capital gain made on disposal of any asset. For properties acquired after 21 September 1999, the taxpayer may pay tax on half of the capital gain made on disposal. The tax is charged at the marginal tax rate of an individual taxpayer and at company tax rate of 30 per cent for companies and corporations (Prince, 2008). If the land is sold not as an asset but for profit in the business of trading in property, like the business of a developer, then CGT is not payable. The profits are subject to normal income tax. For casual developers, the sale of land may be regarded as a disposal of an asset and CGT applies.

GST, introduced on 1 July 2000, is a consumer tax. For property transactions, it is generally calculated at 10 per cent of the sale price. The seller pays the tax and the cost is eventually passed on to the buyer (Blake Dawson and JLL, 2008). For residential properties, GST is payable for the sale of new properties only. The sale of pre-owned properties is free from GST (ATO, 2010c; Prince, 2008).

Land tax and stamp duties are collected by the state or territory government. In NSW where Sydney is situated, land tax is based on the assessed unimproved value of the land. The charge is \$100 (US\$90) plus 1.6 per cent of the land value between the threshold A\$376,000 (about US\$338,400) and the premium rate threshold A\$2,299,000 (about US\$2,069,100) and 2 per cent thereafter (OSR NSW, 2010).

In NSW, stamp duties are payable for transfer of a dutiable property. The rate of duty chargeable is based on a progressive scale. If the property value involved is more than A\$1 million (US\$900,000), which is the case of the majority of residential development, the top rate is payable at A\$40,490 (US\$36,440) plus A\$5.50 (US\$4.95) for every A\$100 (US\$90), or part, by which the dutiable value exceeds A\$1 million (US\$900,000) (OSR NSW, 2009).

At local level, council rates are levied by local councils to provide and maintain infrastructure and for the running of the local government. The rates again differ in different states and local government areas. In NSW, the standard rate is pegged to 2.6 per cent by the state government. Individual councils may apply for approval to levy rates above the standard figure. For example, in July 2010, approval was given to allow several local councils to increase the rate to between 9.25-10.5 per cent (ABC News, 2010).

The revenue from property taxes in recent years is shown in Table I. Clearly the state governments have the largest share.

Australia has moved towards the "user pay policy" for the provision for infrastructure (McInerney *et al.*, 2009; ACCI, 2006). In addition to property taxes, developers need to pay infrastructure contributions to local and state governments. Except the federal taxes, there are no uniform rates for other property taxes and fees in the country. Development land in Australia is mainly in private ownership, the government gets very little revenue from land sales. However, the government is blamed for pushing up land price because of the urban consolidation policy and the tardiness in releasing greenfield land for development via zoning or rezoning, in addition to the high property taxes and fees (UDIA, 2008).

2.1 Sydney

Sydney is the capital city of NSW and is the largest city in Australia; its urban area covers 1,687 km^2. The 2006 census reported that about 3.65 million residents lived in the urban area; Inner Sydney was the most densely populated place in Australia with 4,023 inhabitants per km^2 (Wikipedia, 2010c).

Sydney is the commercial and financial centre in Australia and provides about for 25 per cent of the GDP in the country. The Australian Securities Exchange, the Reserve Bank of Australia and the headquarters of 90 banks are located in Sydney. More than half of Australia's top companies, and the regional headquarters for around 500 multinational corporations are also established in Sydney.

There are six public universities in Sydney, including the Sydney University, which was the oldest university in Australia (Wikipedia, 2010c).

The 5th Annual Demographia International Housing Affordability Survey 2009 reports that Sydney is one of the "severely unaffordable housing markets" with a median multiple of 8.3 (Cox and Pavletich, 2009, Table ES3). The median house price as at April 2010 was A$641,000 (about US$576,900) (Chancellor, 2010). The changes of house prices in recent years are shown in Figure 1.

In regard to property taxes and fees in Sydney, HIA (2003) has identified the charges shown in Table II. It should be noted that Table II does not include charges for council rates, stamp duties, land tax and state infrastructure contributions.

The developer infrastructure contributions are also known as "Section 94 contribution". Local councils are authorised by section 94 and 94A of the Environmental Planning and Assessment Act 1979 to demand the payment of contributions to provide, maintain and enhance amenity and service delivery within the area. Each local council may prepare contribution plans that it thinks fit. Table III shows an example of part of a contribution plan for residential development in the city of Sydney local government area.

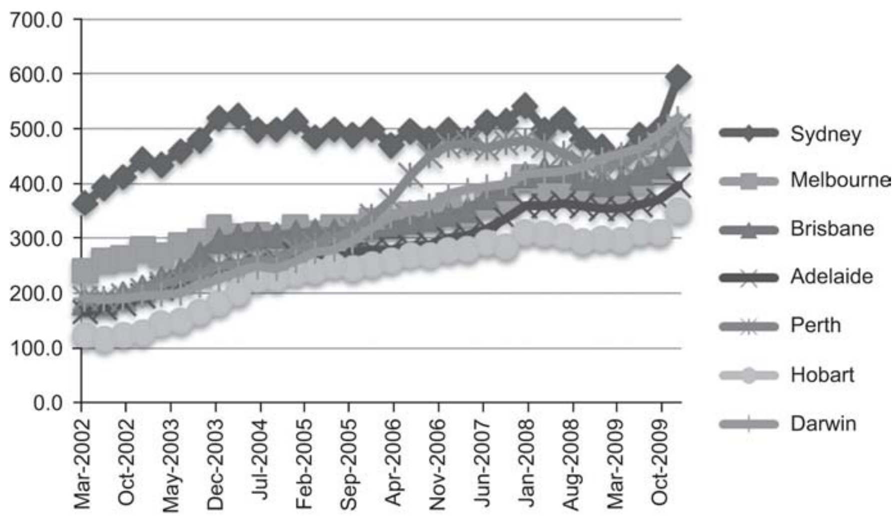
Apart from local council's infrastructure contributions, developers also need to pay state infrastructure contributions which cover recovery of train, road, bus subsidies, land for education, health and emergency service facilities, conservation and planning delivery. The State Infrastructure Contributions apply to the growth centres in Sydney and a few other prescribed areas. The infrastructure levies can amount to $66,000 or about 30 per cent of the sale price for a single vacant block of land that is zoned for residential development (DoP, 2008).

In fact, Sydney has the highest infrastructure charge among the major cities in Australia, see Figure 2.

	Taxes on property					
	2003-2004 $m	2004-2005 $m	2005-2006 $m	2006-2007 $m	2007-2008 $m	2008-2009 $m
Commonwealth government	13	14	14	15	15	16
State governments	16,690	16,046	16,911	19,865	20,967	16,986
Local governments	7,671	8,183	8,726	9,404	10,128	10,874
All levels of government	24,366	24,235	25,643	29,274	31,075	27,834

Notes: Unit: US$m; Exchange rate: A$1 = US$0.90
Source: Adapted from ABC News (2010)

Table I.
Revenue from property taxes



Source: Based on data from ABS (2010b)

Figure 1.
Change of median house price in Australia

Table II.
Fees, taxes and charges on new residential development in Sydney

Land development	Building
Developer infrastructure contributions:	Council fees and charges:
Major roads	Building permit levy
Drainage	Training levy
Public open space	Kerb deposit
Sewer and water headworks	Water corporation
Recycled water	Development application fees
Community facilities	Long service leave levy
Roads and transport levy	Compulsory house warranty insurance
Stormwater retention	
Land restoration	GST
Clearance fees:	
Water corporation	
Council	
Land titles office	
Electricity	
Development assessment commissioner	
GST on development costs	

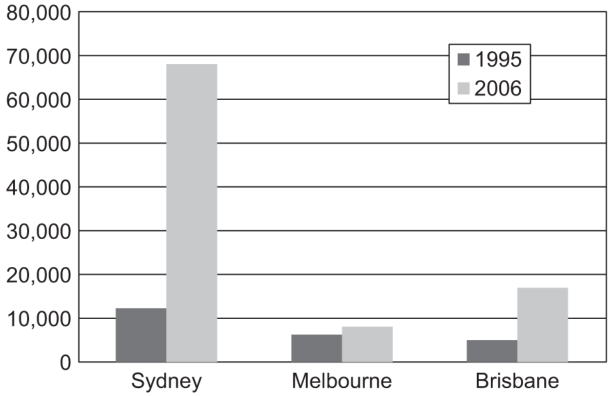
Source: Information extracted from HIA (2003, p. 15)

Coupled with the federal taxes, land tax, and stamp duties, etc., the total cost of property taxes and fees amounts to 20-35 per cent of house price (HIA, 2003), and is eventually passed on to home purchasers. The high land price has seen the area of residential lots getting smaller, with a typical lot size dropping to around 450 m^2 (Turner, 2010). Figure 3 shows the various components of a typical new house and land package in a large Sydney greenfield development.

Contribution type	Per resident ($)	Per worker ($)	Bedsits and one bedroom dwelling ($)	Two bedroom dwellings ($)	Three or more bedroom dwellings ($)	Residents of a non-private dwelling ($)
Community facilities	524.40	104.88	681.72	996.36	1,363.44	274.91
Public domain	748.45	149.69	972.98	1,422.05	1,945.96	748.45
New open space	6,144.52	1,228.90	7,987.88	11,674.60	15,975.76	6,144.52
Accessibility	61.43	12.29	79.86	116.72	159.72	61.43
Management	66.42	13.28	86.35	126.20	172.69	66.42
Total	7,545.22	1,509.04	9,808.79	14,335.93	19,617.57	7,295.73

Source: City of Sydney (2006, p. 4)

Table III. Western precinct summary contributions rates



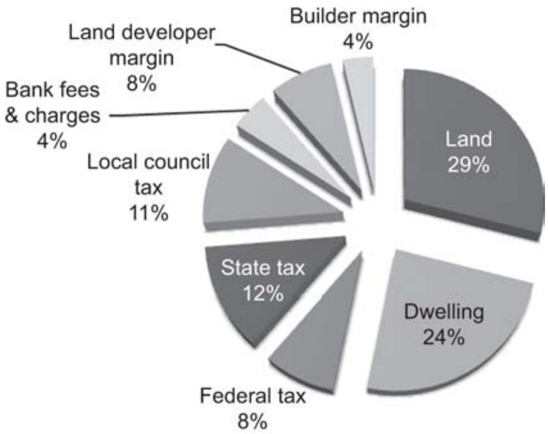
Source: Based on figures scaled off from Chart EX1, Urbis (2006)

Figure 2. Comparison of infrastructure charges

2.2 Changes to reduce the burdens

People in Sydney blame the high property taxes and fees contribute to high property prices. In Sydney, property taxes and fees can be up to US$135,000 per block of resident land. The condition is so worse that some developers even threaten to stop developing because they cannot sell properties at the resultant high price (Chesterton, 2007). In response to the negative public opinion, the NSW state government has taken the following actions to reduce the fees:

- Increase the state government's contribution towards infrastructure.
- Allow payment of state levies to occur before the transfer of title from the developer to the purchaser.
- For the provision of infrastructure as works in kind through developer agreements, the developer will receive an infrastructure levy credit that can be used to offset future contributions, or be traded to other developers.
- Councils are limited to charging a maximum contribution of A$20,000 (US$18,000) per dwelling unless approved by the Minister for Planning for a higher contribution (DoP, 2008).



Source: Based on data from HIA (2003, p. 16)

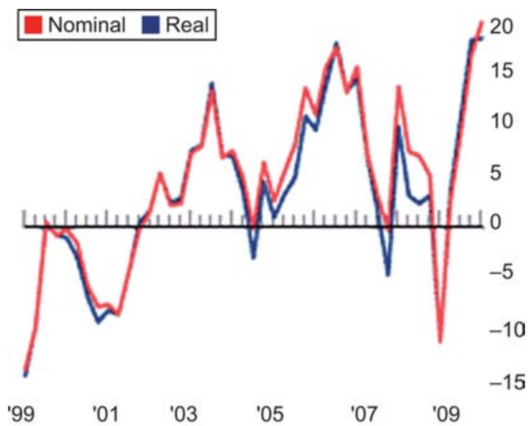
Figure 3.
Components of house price in Sydney

3. Property taxes and fees in Taiwan, focused on Taipei

Taiwan has an area of 35,980 km^2 and a population of around 23 million. The per capita GDP in 2009 was US$31,834 (Wikipedia, 2010a, b). Housing prices have substantial escalation in the past ten years, see Figure 4.

The current average per square metre house price is around US$4,000 which is out of the ordinary people's reach (Global Property Guide, 2010). People who cannot afford to buy a house call themselves "snails without shells". It has been reported that, in order to realise the house purchase dream, many choose to do without children, or with just one child (Colebatch, 2010).

The Taiwanese government imposes taxes on the transfer of and holding property on the inland. Taxes are levied at national and municipal levels. At the national level, individual income tax (IT), profit-seeking enterprise income tax (PEIT), estate tax (ET) and gift tax (GT) are levied. Individuals in Taiwan pay IT at a progressive rate from



Sources: Sinyi. Global Property Guide (2010, with permission)

Figure 4.
Annual house price change in Taiwan

5-40 per cent whereas companies pay PEIT at a progressive rate of 0, 15, and 25 per cent. ET and GT are not aimed at property, but a substantial portion of the revenue is from property. At present, they are levied at a progressive rate of 2-50 per cent and 4-50 per cent respectively. Value added tax (VAT) is also a national tax, but the sale of land is exempt from this tax (Department of Investment Services, 2010).

Property taxes at municipal level include the land value tax (LVT), land value incremental tax (LVIT), house tax (HT), deed tax (DT), and stamp tax (ST). All land with value is subject to the LVT at progressive rate of 1-5.5 per cent. When land is sold, the vendor needs to pay LVIT based on the increase in the assessed value since the previous sale or transfer. The tax rate varies from 20-40 per cent. Owners disposing self-used residential property may pay the tax at a preferential rate of 10 per cent. The HT is a tax based on the assessed value of the improvement. The tax rate varies with the type of building. For residential property, the minimum rate is 1.2 per cent and the maximum 2 per cent.

DT is levied on the transfer of real estate at a rate ranging from 2-6 per cent. It is not payable where the LVIT is imposed (PKF International, 2009). ST is charged on business transaction documents, property titles, permits and the like. For property titles, the levy is 0.1 per cent of the transaction amount (Department of Investment Services, 2010).

There is no council rate levy in Taiwan. The provision of infrastructure in urban area is the responsibility of the government. Under Article 51 of The Equalization of Land Rights Act, the revenue from LVIT is to be used for public welfare programs including infrastructure. As such, there are no extra development levies to cover the cost of infrastructure. However, for developments involving the change of land use, developers need to pay an infrastructure contribution to be determined by the authority. Instead of monetary contribution, developers may elect to construct the necessary infrastructure and then dedicate the facilities and associated land to the government.

For developments in non-urban areas, developers need to pay a levy known as "non-urban area development impact fee" under Article 15-3 of the Regional Planning Act. For residential developments, the fee is related to impacts on road connection and school facilities. Developers may also dedicate building land to the government in lieu of the fee payment.

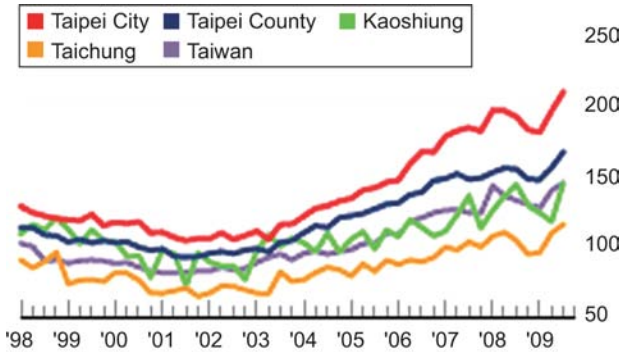
3.1 Taipei

Taipei City has an area of about 272 km^2 and a population of around 2.6 million. The population density is 9,600 km^2. Its GDP per capita in 2009 was US$48,400, being the second highest in Asia behind Tokyo (CENS, 2009). There are 20 university campuses in Taipei.

In terms of stability, health care, culture and environment, education and infrastructure, Taipei scored 62 in the Global Liveability Ranking (EIU, 2009). The prospect in finalising the Economic Cooperation Framework Agreement with China has enhanced the economy; and Global Property Guide (2010) reports that mainland Chinese buyers are to boost Taiwan's housing market.

House prices in Taipei have escalated significantly in recent years, see Figure 5. The blooming residential market has seen house prices in the city increase by 79 per cent over the past seven years, with the price to income ratio approaching 11 (*The China Post*, 2010).

The surging market also brings substantial tax revenue to the national and local governments. Table IV highlights the property tax revenue in recent years. It should be noted that although the land value tax and house tax accounts for about 80 per cent of



Note: 1991 = 100
Sources: Sinyi Realty. Global Property Guide (2010, with permission)

Figure 5.
House price index in Taiwan

Table IV.
Revenue from property taxes in Taiwan

Year	2002	2003	2004	2005	2006	2007	2008
National government (national taxes)							
Business income tax	5,180	6,678	7,534	10,292	9,746	11,957	13,914
Estate and gift tax	736	941	908	952	897	890	906
Total taxation revenue	30,675	30,981	34,303	39,674	40,490	44,398	45,683
Local governments (municipality and county (city) taxes)							
Land tax	3,065	3,494	4,184	4,230	4,100	4,178	3,628
House tax	1,452	1,500	1,541	1,590	1,640	1,684	1,729
Deed tax	321	363	404	412	438	426	397
Stamp tax	216	243	243	264	272	276	302
Total taxation revenue	6,539	7,147	7,990	8,179	8,155	8,285	7,774

Notes: Unit: US$1,000; Exchange rate: US$1 = NT$32
Source: Ministry of Finance ROC (2010)

the total revenue, it is mainly due to the holding or transfer of property among the people rather than tax paid by developers for property development.

Unlike Sydney, property taxes in Taiwan account for a very small portion of the overall residential development cost. Table V lists the cost components of six residential developments in Taipei in 2009. The analysis is summarized in Figure 6.

It can be seen that land cost, building cost and developer's profit each accounts for a substantial share of the total cost. Property taxes account for a very small portion, around 2 per cent.

4. Comparison of property taxes and fees in Australia and Taiwan

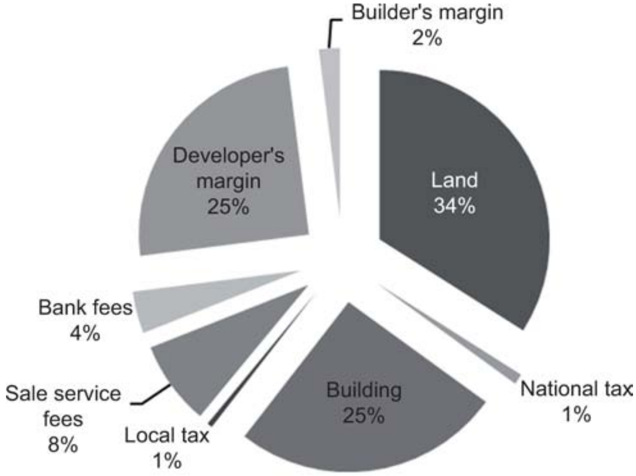
Residential developments in Australia and Taiwan are subject to property taxes and fees. Table VI summarises their similarities and differences.

It can be seen that the number of property taxes and fees are about the same in both countries. The salient difference is that there is basically no infrastructure levy in urban areas of Taiwan (except for developments involving the change of land use).

Item	Case A	Case B	Case C	Case D	Case E	Case F
Case info.						
Land area (m^2)	994	620	6,625	2,174	7,788	32,579
Total floor area (m^2)	6,096	4,135	47,587	28,448	21,027	31,489
Building planning	9F-B3	11F-B3	35F-B3	22F-B6	12F-B3	5F-B2
Sales price (US$/$m^2$)	5,521	4,254	7,563	6,617	3,025	3,687
Cost						
Land (%)	27.01	34.54	40.99	37.35	34.20	30.34
Building (%)	27.11	27.26	19.60	22.25	28.64	27.23
Sale service fees (%)	7.80	8.00	8.00	8.00	8.00	8.00
Bank fees (%)	4.64	4.55	4.99	5.43	2.45	3.15
National tax (%)	0.93	0.79	0.80	0.80	0.80	0.80
Local tax (%)	0.65	0.63	0.11	0.12	0.12	0.17
Developer's margin (%)	27.79	22.87	22.57	24.93	24.35	28.95
Builder's margin (%)	4.07	1.36	2.94	1.11	1.43	1.36
Total cost (%)	100.00	100.00	100.00	100.00	100.00	100.00

Note: Exchange rate: US$1 = NT$ 32
Source: Anonymous developers, 2010

Table V.
Components of house price in Taipei



Source: Based on data from Table 5

Figure 6.
Components of house price in Taipei

Furthermore, VAT is not payable for land sales. Unlike Australia, capital gain tax in Taiwan is paid to the local government rather than the national government. In Australia, homeowners need to pay council rates; this item is not available in Taiwan. Instead, Taiwanese homeowners pay house tax. Estate tax is a major source of revenue to the national government in Taiwan, whereas this tax was abolished in Australia.

Property taxes and fees form a substantial portion of the sale price of new residential development in Sydney (20-35 per cent), whereas the impact in Taipei is minimal (around 2 per cent).

Table VI.
Comparison of property taxes and fees in Australia and Taiwan

Items	Australia	Taiwan
Personal income tax	National tax	National tax
Corporate income tax	National tax	National tax
GST/VAT	National tax	National tax – but sales of land are exempt from the tax
CGT/LVIT	National tax	Local tax
Land tax/land value tax	Local tax	Local tax
Stamp duty/stamp tax	Local tax	Local tax
Deed tax	Local tax, included in stamp duty	Local tax
Estate/inheritance tax	Local tax, abolished throughout Australia in 1981	National tax
Gift tax	Local tax, included in stamp duty	National tax
Infrastructure contributions	Local tax	Local tax, for non-urban areas only
House tax	N/A	Local tax
Council rates	Local tax	N/A

5. Conclusion

The rapid escalation of house prices has seen housing affordability in Australia and Taiwan deteriorated in recent years. There are many factors causing the rise in house prices. It is interested to see if property taxes and fees are the culprit for the problem in these two countries. Sydney and Taipei are the chosen case study cities.

The above analysis shows that property taxes and fees in Sydney and Taipei are levied by different levels of government. In Sydney, the charges go to three levels of government, whereas in Taipei, they go to 2 levels of government. While the name of the taxes and fees are not entirely the same, the two cities have roughly the same number of property taxes and fees.

The study of house price components shows some similarities in Sydney and Taipei. The land cost in both cities accounts for about 30 per cent of the total house price. The building construction cost again is about the same level at 24 per cent. The major difference lies in that the property taxes and fees in Sydney account for about 20-35 per cent of house price, whereas it is merely around 2 per cent in Taipei. In contrast, the developer's profit in Taipei is as high as 25 per cent, while it is around 8 per cent in Sydney.

Based on the study results, it can be concluded that property taxes and fees do have a significant impact on house prices in Sydney; but only a minimal impact in Taipei. The main reason is that Australia adopts a "user pay policy" such that the infrastructure cost for new residential developments is to be paid by the developers, who will then pass the burden onto the homebuyers. Also other property taxes and fees are not necessarily used to provide infrastructure. In contrast, Article 51 of The Equalization of Land Rights Act in Taiwan requires the revenue from LVIT to be used for public welfare programs including infrastructure.

In Sydney, the huge share of property taxes and fees in the house cost component certainly provides room for the various levels of government to reduce the charges. It should however be noted that it is unrealistic to believe that if the relevant governments were to remove all property taxes and fees, then house prices would drop by one-third. Anyway, a substantial reduction in charges may help stabilising house prices or at least slowing down the pace of price escalation. The recent reduction in infrastructure contribution by the NSW government is well received by developers and homebuyers.

In contrast, a cut in property taxes and fees in Taipei may not have any substantial impact on house prices, having regard to the already very low level of levy. The best solution to high house prices is by increasing supply. Given that developers have only a small tax burden on holding land, the Taiwanese government may consider substantially increasing the land holding tax so as to discourage developers from hoarding scarce land resource and expedite more supply of residential property to the market.

This study has limitations in that only two cities are involved. As such, the findings are not exhaustive or conclusive. When conditions allow, a comprehensive study of all major cities in the two countries should be conducted. Nevertheless, this study does provide some background information about cost components of house prices and the impact of property taxes and fees in both cities. It may serve as a stepping-stone for future research.

References

ABC News (2010), "Council rates lifted across NSW", 2 July, available at: www.abc.net.au/news/stories/2010/07/02/2942942.htm (accessed 20 July 2010).

Australian Chamber of Commerce and Industry (ACCI) (2006), "ACCI's revised infrastructure policy", available at: www.acci.asn.au/text_files/issues_papers/Infrastructure/January%2006%20-%20Revised%20Infrastructure%20Policy.pdf (accessed 25 November 2010).

Australian Taxation Office (ATO) (2010a), "Individual income tax rates", available at: www.ato.gov.au/individuals/content.asp?doc=/content/12333.htm&pc=001/002/046/002/002&mnu=&mfp=&st=&cy=1 (accessed 27 July 2010).

Australian Taxation Office (ATO) (2010b), "Company tax rates", available at: www.ato.gov.au/businesses/content.asp?doc=/content/44266.htm&mnu=43164&mfp=001/003 (accessed 27 July 2010).

Australian Taxation Office (ATO) (2010c), *GST and Property*, Australian Taxation Office, Canberra.

Blake Dawson and Jones Lang LaSalle (JLL) (2008), *Australian Real Estate: A Legal Guide for Foreign Investors*, Blake Dawson, Canberra.

Chancellor, J. (2010), "Median prices up in Sydney: but not as much as in Melbourne", *Sydney Morning Herald*, 20 April, available at: www.smh.com.au/business/property/median-prices-up-in-sydney–but-not-as-much-as-in-melbourne-20100419-spe6.html (accessed 25 April 2010).

Chesterton, A. (2007), "Builders lobby for $3bn aid", *Sunday Telegraph*, 15 July, p. 18.

China Economic News Services (CENS) (2009), "Taipei City has second-highest per capita GDP in Asia: TIER", available at: www.cens.com.tw/cens/html/en/news/news_inner_26710.html (accessed 1 May 2010).

(The) China Post (2010), "Surging home prices creating problems: realtor", 3 April, available at: www.chinapost.com.tw/business/asia-taiwan/2010/04/03/251007/Surging-home.htm (accessed 1 May 2010).

City of Sydney (2006), "Development contributions plan 2006", available at: www.cityofsydney.nsw.gov.au

Colebatch, T. (2010), "Taiwanese solution to soaring house prices: don't have kids", *The Age*, 27 April, available at: www.theage.com.au/opinion/politics/taiwanese-solution-to-soaring-house-prices-dont-have-kids-20100426-tn7m.html (assessed 10 May 2010).

Cox, W. and Pavletich, H. (2008), "Ratings for major urban markets", *4th Annual Demographia International Housing Affordability Survey: 2008*.

Cox, W. and Pavletich, H. (2009), "Ratings for major urban markets", *4th Annual Demographia International Housing Affordability Survey: 2009*.

Department of Investment Services (2010), "Introduction of Taiwan tax system", available at: http://investtaiwan.nat.gov.tw/matter/show_eng.jsp?ID=7 (accessed 13 October 2010).

Department of Planning, NSW (DoP) (2008), "Review of infrastructure contributions", Planning Circular PS 08-017.

Duncan, J. (2008), *Causes of Inadequate Housing in Latin America and the Caribbean*, Habitat for Humanity International, Americus, GA.

Easton Town Council (2010), "2010 Comprehensive plan: housing", Easton Town Council, Maryland, pp. 132-42.

Economic Intelligence Unit (EIU) (2009), "Press release: European cities among best places to live", available at: www.iut.nu/Facts%20and%20figures/LiveableCities2009.pdf (accessed 1 May 2010).

Feldman, R. (2002), "The affordable housing shortage: considering the problem, causes and solutions", Federal Reserve Bank of Minneapolis, Banking and Policy Working Paper 02-2.

Global Property Guide (2010), "Taiwan: overview", available at: www.globalpropertyguide.com/Asia/Taiwan (accessed 16 May 2010).

Hensarling, J. (2009), "The true causes of the housing crisis", available at: www.politico.com/news/stories/0409/21819.html (accessed 20 July 2010).

Hodge, I. and Cameron, G. (1989), "Raising infrastructure charges on land development: incidence and adjustments", *Journal of Property Research*, Vol. 6 No. 3, pp. 171-82.

Housing Industry Association (HIA) (2003), *Restoring Housing Affordability: The Housing Industry's Perspective*, HIA.

McInerney, L., Nadarajah, C. and Perkins, F. (2009), "Australia's infrastructure policy and the COAG National Reform Agenda", Australian Treasury, available at: www.treasury.gov.au/documents/1221/PDF/02_NRA.pdf (accessed 25 November 2010).

Ministry of Finance ROC (2010), *Yearbook of Financial Statistics, ROC 2009*, Ministry of Finance ROC, Taiwan.

Needham, B. (2000), "Land taxation, development charges, and the effects on land-use", *Journal of Property Research*, Vol. 17 No. 3, pp. 241-57.

Office of State Revenue NSW (OSR NSW) (2009), "Stamp duties rates".

Office of State Revenue NSW (OSR NSW) (2010), "Land tax 2010".

Peardon, N. (2008), "Housing: a basic need", Ezine @rticles, available at: http://ezinearticles.com/?Housing-A-Basic-Need&id=1263590 (accessed 20 July 2010).

PKF International (2009), "Taiwan (Republic of China) tax guide 2009", available at: www.wipfli.com/Resources/Images/13743.pdf (accessed 2 April 2010).

Power, B. (2007), "Promoting affordable housing by addressing the root cause", paper presented at the Oakland Blue Ribbon Commission on Inclusionary Zoning, 21 February, available at: www.independent.org/issues/article.asp?id=2030 (accessed 20 July 2010).

Prince, J.B. (2008), *Taxation Pocket Guide For Australian Property Investors*, 2nd Ed., McGraw Hill Australia, Sydney.

Reinhardt, S. and Steel, L. (2006), "A brief history of Australian tax system", paper presented at the 22nd APEC Finance Ministers' Technical Working Group Meeting, Khanh Hoa, 15 June.

Skaburskis, A. (1990), "The burden of development impact fees", *Journal of Property Research*, Vol. 7 No. 3, pp. 173-85.

Turner, K. (2010), "Sydney granny flat report", available at: http://media.mytalk.com.au/2ue/audio/GrannyFlatReport.pdf (accessed 13 October 2010).

Urban Development Institute of Australia NSW (UDIA) (2008), "Housing affordability: a little less conversation, a little more action", available at: www.udia.com.au

Wikipedia (2010a), "List of countries by GDP (PPP) per capita", available at: http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)_per_capita (accessed 24 February 2010).

Wikipedia (2010b), "Australia", available at: http://en.wikipedia.org/wiki/Australia (accessed 15 March 2010).

Wikipedia (2010c), "Sydney", available at: http://en.wikipedia.org/wiki/Sydney (accessed 15 March 2010).

Wisegeek (2010), "What is property tax?", available at: www.wisegeek.com/what-is-property-tax.htm (accessed 20 July 2010).

Further reading

Australian Bureau of Statistics (ABS) (2010), "Total taxation revenue 2007-08", available at: www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/5506.0Main%20Features22008-09?opendocument&tabname=Summary&prodno=5506.0&issue=2008-09&num=&view= (accessed 30 December, 2009).

Australian Bureau of Statistics (ABS) (2010), "6416.0 – House Price Indexes: Eight Capital Cities, Jun 2010, Tables 7 and 8. Median Price (unstratified) and Number of Established House Transfers", available at: www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6416.0Jun%202010?OpenDocument (accessed 30 August 2010).

Karantonis, A. (2007), "Is property being over taxed – a NSW study", *Australian and New Zealand Property Journal*, Vol. 1 No. 3, pp. 176-85.

Modern Express News (2007), "Developers make profit but dislike high taxes", 2 July, available at: www.cs.com.cn/fc/03/200707/t20070702_1156844.htm (accessed 16 September 2009).

Urbis, J.H.D. (2006), "National housing infrastructure costs study", The Residential Development Council, Property Council of Australia.

Corresponding author
Nelson Chan can be contacted at: n.chan@uws.edu.au