



Business Bearing the Burden 2012

**The Size and Impact of State and Territory Government
Business Taxes: The IPA State Business Tax Calculator**

**Julie Novak
Senior Fellow**

January 2013

 **Institute of
Public Affairs**
Free people, free society

Executive Summary

- The Institute of Public Affairs (IPA) State Business Tax Calculator calculates the level of state and territory government general taxes on business.
- Based on a hypothetical 'reference business' scenario as adopted by the World Bank, the IPA analysis reveals:
 - The Northern Territory imposes the lowest level of tax liability on a medium sized business in Australia, due in part to its no-land tax policy.
 - Western Australia and Victoria maintain the second and third lowest taxing regimes, giving them a distinct competitive edge over other jurisdictions.
 - The Australian Capital Territory is assessed as imposing the highest level of business taxes. South Australia and New South Wales are also grouped as high-taxing jurisdictions.
- The key policy implications of the IPA findings are:
 - Variations in tax competitiveness between states and territories appear to be mainly driven by differences in property taxation.
 - Differences in the tax mix across jurisdictions suggests that there are different approaches available to each government to reduce their business tax burden – for example, the ACT should target property tax reductions as a priority, Tasmania could reduce payroll taxes, and Victoria should reduce stamp duties to further consolidate its low tax position.
- State business taxes are widely held to impede efficiency, which constrain business growth and hence the development of Australia's market-based economy.
- If state governments use the findings from this study to cut tax burdens, Australia stands to strengthen private sector-led economic growth amidst continuing international economic uncertainties.

* The information contained in this paper is indicative estimates of state and territory government business tax liabilities, presented for illustrative purposes only. The IPA does not accept liability for any decisions or transactions made or effected on the basis of information contained in this paper. Individuals and businesses seeking tax information relevant to their own circumstances should consult their tax advisor.

1. Introduction

Numerous taxes on business are imposed by Australia's state and territory governments. A study published last year showed a large business operating in every jurisdiction could potentially be subject to a maximum of 138 taxing points.¹ These include taxes on payroll, property, financial and capital transactions, and on goods and the performance of activities.

According to the Australian Bureau of Statistics, taxes imposed by state and territory governments totalled approximately \$58.1 billion in 2010-11, representing about 29 per cent of general government revenue.²

A significant proportion of this state tax liability burden is directly borne by the business community – the prime generator of investment, jobs and exports in Australia. Specifically, some of the major taxes that impact directly upon businesses, and covered in this report, include:

- Payroll tax – a tax levied on employers and based on wages paid or payable (including non-cash fringe benefits and employer superannuation contributions in most states) to employees.
- Land tax – a tax levied on the unimproved value of selected categories of land held as at a particular date.
- Land transfer duty – a tax levied on the transfer of non-residential commercial (and residential) property, paid by the purchaser and based on the sale price (or value, if higher) of the property.
- Insurance duty – a tax levied on a variety of insurance policies, generally based on the annual premium.
- Motor vehicle registration duty – a tax on the value of a vehicle payable on the application to initially register a motor vehicle or the application to change the name of the registered owner.³

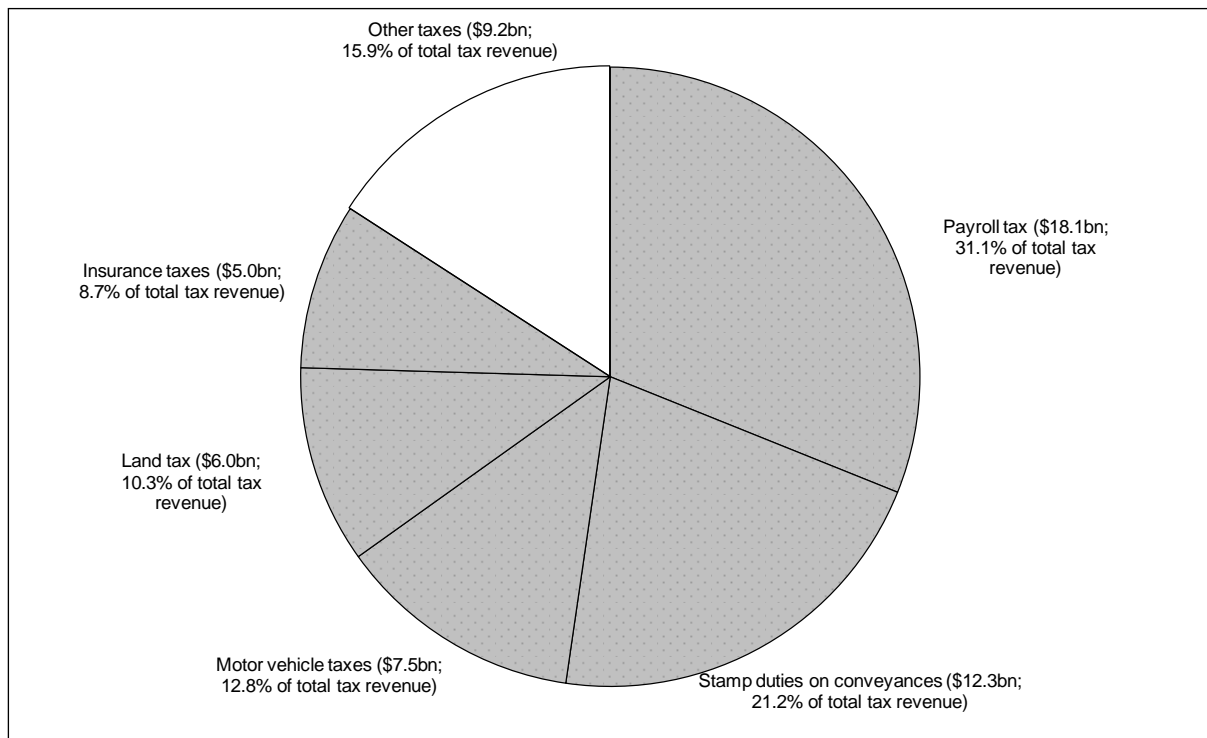
Figure 1 illustrates the amounts and shares of revenue acquired by these taxes.

¹ PricewaterhouseCoopers, 2011, *2010 Total Tax Contribution: Understanding the economic contribution of business*, <http://www.pwc.com.au/tax/assets/2010-TTC-Survey.pdf>. NSW had the highest number of state business taxes (22), followed by Victoria (21), and Queensland, Western Australia and South Australia (18). Tasmania and the Northern Territory each had the lowest number of business taxes (12).

² Australian Bureau of Statistics (ABS), *Government Finance Statistics, Australia, 2010-11*, cat. no. 5512.0.

³ NSW Treasury, 2011, *Interstate Comparison of Taxes 2011-12*, Office of Financial Management, Research & Information Paper, November.

Figure 1: Revenue acquired from selected state taxes, 2010-11



Shaded areas signify taxes included within the scope of this study. Revenue acquired under selected taxes, such as stamp duties, motor vehicle taxes, land tax and insurance taxes, included in this Figure are imposed on businesses and individuals. 'Other taxes' include taxes on gambling activities, other taxes on property and financial and capital transactions, statutory corporation levies and miscellaneous taxes.

Source: Australian Bureau of Statistics (ABS), Taxation Revenue, Australia, 2010-11, cat. no. 5506.0.

In practice, the myriad of taxes levied by state governments can make it difficult for busy business owners and managers to understand their liabilities. This is especially the case when governments change tax rates and bases, or when businesses grow in size thus affecting their tax liability levels. It can be particularly difficult for smaller businesses to appreciate how seemingly minute variations in state tax structures could yield significant variations in liability.

Government may see it as being in their own interests to obscure the 'visibility' of their taxes. Business taxes can potentially create a 'fiscal illusion' effect whereby voters and taxpayers are uncertain about where the final incidence of a tax falls, and even how much revenue the tax raises. This could make the tax burden in some instances seem much smaller than it actually is, with significant consequences for broader community support for wide-ranging state tax reform.

Individual state revenue offices provide information about the potential tax liabilities applicable to their own respective jurisdictions. However, there remains a lack of a single information source on the tax burdens placed on a business if it were to operate in any of the six states and two territories. The benchmarking results of the Institute of Public Affairs (IPA) State Business Tax Calculator has been published since 2008 to help fill the gap.

This paper aims to shed light on comparative general business tax liabilities for the six states and the two territories.

The next section will investigate why an analysis of state taxation is an important pursuit in the Australian economic context. After a discussion of the main features of the IPA State Business Tax Calculator, the indicative annual tax liabilities of businesses in the states and territories as at 31 December 2012 are calculated using a 'reference business' concept adapted from World Bank competitiveness methodology.

This paper illustrates that there are significant variations in indicative state tax liabilities imposed on businesses, presenting opportunities for competition between governments to institute tax structures more amenable to investment attraction, jobs creation and economic development.

2. Why do state business taxes matter? The impact of taxes on economic performance

In modern societies governments compulsorily acquire revenue from a number of sources in order to fund the production and provision of certain goods and services – such as justice and policing, education, health and transportation. As noted above, taxation represents a key element in the revenue-taking armoury of the Australian states.

That said, the cost of taxation on the community is much greater than that implied by the transfer of funds from businesses and individuals to governments for subsequent public expenditure.

As explained in the public economics literature, taxes either raise the cost of, or lower the return to, the taxed activity, thus distorting choices in the market as economic agents seek to minimise their tax liability by substituting away from activities taxed at higher rates to those taxed at lower, or no, rates. These economic costs are known as the ‘deadweight cost’ or ‘excess burden’ of taxation. Indeed, as the public sector expands the increased taxes induce additional distortions to economic decision-making.

Consider, for example, the impact of taxes on capital. Taxation can affect the cost of capital, or the hurdle rate of return that a project must meet in order for the entrepreneur to undertake it. When returns from a project are taxed then the project must earn an even higher return for it to be considered a worthwhile investment. A tax on investment thereby reduces the number of viable projects that would proceed in a competitive market.

In addition, the imposition of a tax may reduce the potential cash flow to an entrepreneur which in turn affects investment decisions. Specifically, to the extent that liquidity constraints exist in financial markets, a tax on capital could lead to a reduction in the demand for capital.

The long run economic consequences of taxation under this scenario are clear, given the importance of business investment in promoting growth and economic development.

The excess burden of taxation is not the only additional cost rendered by the taxation system. Other costs include administrative costs, compliance costs, enforcement costs and ‘rent-seeking’ costs associated with resources spent by individuals and businesses lobbying politicians and bureaucrats to avoid tax (both in an *ex-ante* and *ex-post* sense).

2.1 Recent empirical studies of efficiency costs of state taxes

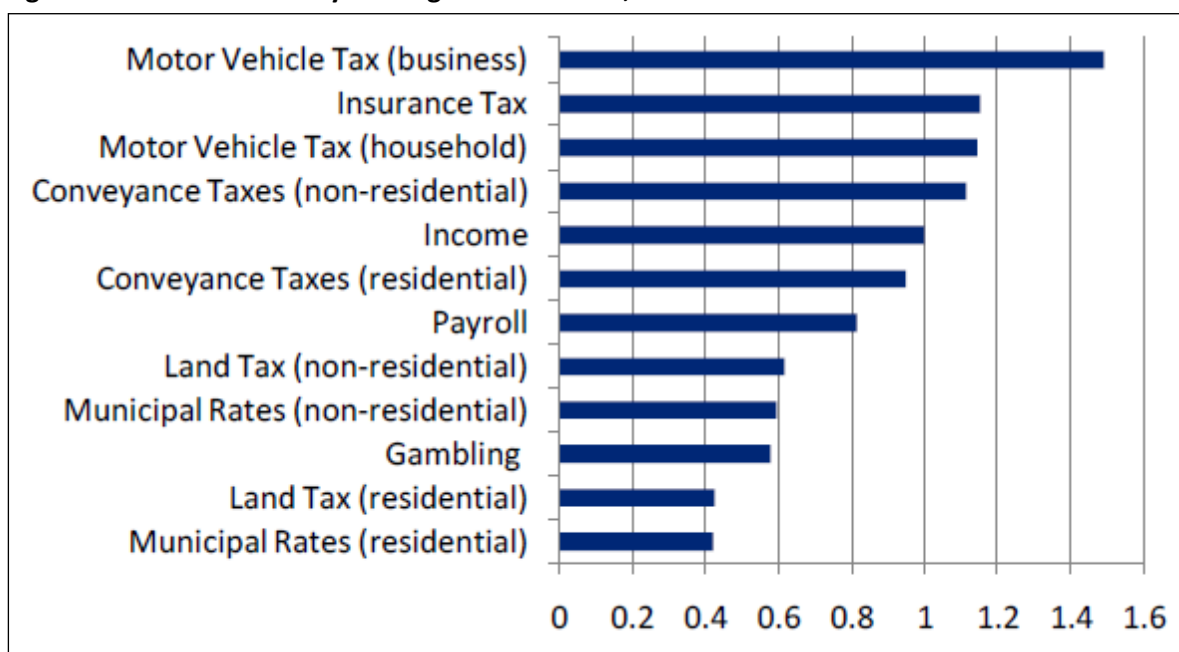
Australian state taxes have long been the target of pointed criticism from businesses and other groups in terms of their relatively poor efficiency properties. These criticisms are supported by empirical studies revealing significant inefficiency costs associated with selected state taxes.

In a commissioned study for the Business Coalition for Tax Reform, the Allen Consulting Group quantified the economic effects of the removal of the most inefficient state taxes - conveyance duties, insurance taxes, fire services levies, and developer contributions and infrastructure charges.⁴

Using a computable general equilibrium model, and assuming that the elimination of these taxes will flow through to consumers in the form of lower prices, both production costs decline and real wages increase. It is estimated that, as a consequence of these beneficial changes flowing through to investment and consumption, GDP will increase in the long run by \$17.8 billion (or 1.6 per cent), with about 90 per cent of the total increase in GDP derived from the abolition of stamp duty and insurance taxes alone.

In its submission to the October 2011 federal Tax Forum, the Insurance Council of Australia attached a study undertaken by Deloitte Access Economics on the relative efficiency of selective taxes.⁵ As illustrated in Figure 2, stamp duties on motor vehicles, insurance taxes and conveyance duties are amongst the most inefficient of taxes imposed by the states and territories.

Figure 2: Detailed efficiency rankings of state taxes, and commonwealth income tax



Taxes ranked from least to most efficient relative to personal income taxation.

Source: Deloitte Access Economics, 2011, 2011 Analysis of State Tax Report, Report for Finance Industry Council of Australia.

⁴ The Allen Consulting Group, 2011, 'State tax reform: A practical approach to drive sustainable gains, Report to Business Coalition for Tax Reform,' http://www.futuretax.gov.au/content/TaxForum/statements/business/Business_Coalition_for_Tax_Reform_Att_1.pdf.

⁵ Deloitte Access Economics, 2011, 2011 Analysis of State Tax Report, Report for Finance Industry Council of Australia, http://www.futuretax.gov.au/content/taxforum/statements/business/Insurance_Council_of_Australia_att_1.pdf.

The commonwealth Treasury commissioned KPMG and Econtech to assess the efficiency implications of the Australian taxation system.⁶ The March 2010 report indicates that a number of major state taxes, such as stamp duties, motor vehicle taxes, insurance taxes and payroll tax, impose relatively high marginal excess burdens upon economic activities (Table 1)

Table 1: Marginal excess burdens of selected state taxes

Tax	Marginal excess burden	Marginal excess burden rating
Land tax	8	Low
Stamp duties (other than real property)	18	Medium
Conveyancing stamp duty	34	High
Motor vehicle stamp duty	38	High
Payroll tax	41	High
Insurance taxes	67	Very high

Marginal excess burden expressed in terms of cents of consumer welfare per dollar of revenue.

Source: KPMG-Econtech, 2010, CGE Analysis of the Current Australian Tax System.

A March 2009 study by the Centre for International Economics (CIE) for the Business Coalition for Tax Reform (BCTR) modelled the economic impacts of three policy scenarios involving the reduction or elimination of the some of the most inefficient state taxes (Table 2).⁷

⁶ KPMG-Econtech, 2010, CGE Analysis of the Current Australian Tax System, http://taxreview.treasury.gov.au/content/html/commissioned_work/downloads/KPMG_Econtech_Efficiency%20of%20Taxes_Final_Report.pdf.

⁷ Centre for International Economics, 2009, 'State business tax reform: Seeding the tax reform debate, Report for Business Coalition for Tax Reform', <http://www.thecie.com.au/publication.asp?pID=190>.

Table 2: State tax reform simulations in CIE study

<i>Change scenario</i>	<i>Objective</i>	<i>Source of funds</i>	<i>Proposed tax changes (cost of reforms)</i>
1	Raise growth	Australian Government (\$10 billion).	<ul style="list-style-type: none"> ▪ Reduce stamp duties on residential and non-residential property (\$7.5 billion). ▪ Remove insurance duties (\$2.5 billion). <p>Total change: \$10 billion.</p>
2	Enhance international competitiveness	Australian Government (\$10 billion).	<ul style="list-style-type: none"> ▪ Remove stamp duties on commercial property (\$4.0 billion). ▪ Remove land tax (\$4.4 billion). ▪ Reduce payroll tax (\$1.7 billion). <p>Total change: \$10 billion.</p>
3	Maximise elimination of the worst State taxes	Australian Government (\$8.6 billion). State contribution via a broad State tax (\$8.6 billion).	<ul style="list-style-type: none"> ▪ Remove stamp duties on residential and non-residential property (\$12.5 billion). ▪ Remove insurance duties (\$2.5 billion). ▪ Reduce land tax (\$2.2 billion). <p>Total change: \$17.3 billion.</p>

Assuming the removal of stamp duties on financial transactions and on non-real non-residential property in accordance to the original Intergovernmental Agreement timetable.

Source: Centre for International Economics, 2009, State business tax reform: Seeding the tax reform debate, Report for Business Coalition for Tax Reform.

The CIE research suggests that state tax reform would increase gross domestic product (GDP) in the long run, compared to a no-change scenario, by 0.6 per cent (Scenario 1), 0.4 per cent (Scenario 2) and 1.7 per cent (Scenario 3). All three tax change scenarios would also raise private sector investment, which is in itself a key determinant of long run economic growth.

3. The IPA State Business Tax Calculator

Taxes are a major source of costs outside the direct control of business, and so it is essential to develop tools that help shed light on the expected liability that firms are likely to face due to these imposts.

3.1 About the State Business Tax Calculator

The IPA State Business Tax Calculator (SBTC) is a quantitative model that calculates the tax liabilities applied to any business in the Australian states (New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania) and territories (Australian Capital Territory, Northern Territory). Calculations are based on the following general business taxes:

- Payroll tax
- Land tax

- Stamp duties on the sale and purchase of non-residential commercial property, motor vehicles and insurance premiums.

Using information on selected financial and economic activities provided by a business, the SBTC can compare tax liabilities between the different states to see which jurisdiction imposes the lowest tax burden. Not only can the SBTC calculate overall state tax liability for a business, but it can also allow for analysis and comparison of specific taxes.

Further, the SBTC offers insight into the burden of state business taxes on firms of different size profiles.

3.2 Report methodology

To illustrate the features of the IPA SBTC, tax liability is calculated for a ‘reference’ business of medium size. This is a hypothetical business entity with similar underlying economic, financial and operational characteristics that is used to highlight tax liabilities across jurisdictions.

The model used in this paper to construct the reference business is drawn from the World Bank’s annual *Doing Business* project. This project contrasts the ease and costs of operating a business, including tax compliance burdens, across 183 countries. The World Bank’s ‘standard case study company’ is the basis for the reference business used in this study, which is then subjected to the SBTC simulations.

To construct their standard case study company the World Bank use a series of weights, called ‘multiplication factors,’ to take into account relative incomes for each economy surveyed. In order to capture the impact of taxes on the company, assumptions are also made concerning the employment of labour and specific transactions undertaken. For example, the World Bank company has approximately 60 employees, and this is taken to be the employment size of the reference business used in the SBTC.

In the absence of exhaustive financial surveys of real-world business entities, a reference business model is an acceptable alternative method of obtaining reasonable tax comparisons (Box 2).

Box 2: The validity of a hypothetical ‘reference business’ model for tax benchmarking

For the purpose of this study, a hypothetical business – labelled a ‘reference business’ – was developed to generate comparable tax liability estimates across states.

In the absence of detailed financial data obtained from real-world entities, the reference business model is used to ensure that calculated differences in state tax liabilities actually reflect differences in tax systems, rather than differences in business characteristics. In other words, a consistent ‘like with like’ business comparison is provided.

To be sure, the reference business is not necessarily representative of the business population from a statistical perspective. Nonetheless, it accounts for the structural and operational characteristics and activities

of a business that are reasonably commonplace, including the hiring of labour and ownership and sale of assets.

Consistent with this, as the relative concentrations of businesses sizes can vary across the states the SBTC module can also adjust the scale of the reference business. This effectively allows for sensitivity testing of results.

The development of a hypothetical entity has long represented an acceptable practice in benchmarking studies. The *Paying Taxes* module of the annual World Bank *Doing Business* project has been in use for three consecutive years and, as an indication of the acceptability of the methodological approach adopted, is used by governments and other relevant stakeholders as a reference to discuss tax policies in an international context.

State governments in the past have also used hypothetical business constructs to sell their tax advantages compared to other jurisdictions. In the 2000-01 Queensland state budget, a hypothetical firm called 'ABC Enterprises' was used to compare average tax liabilities across states and territories. The study found that this firm could have saved up to 65 per cent in tax liability if it established operations in Queensland.

The use of hypothetical entities to benchmark interjurisdictional performance is used in other policy contexts. For example, the Productivity Commission has developed a series of regulation benchmarking reports that have used hypothetical businesses on occasion. This regulation benchmarking series has been endorsed by the Council of Australian Governments comprising commonwealth, state and territory heads of government.

Source: PricewaterhouseCoopers, 2009, *Paying Taxes 2010: The global picture*, International Finance Corporation and World Bank; Productivity Commission, 2007, *Performance Benchmarking of Australian Business Regulation*, Research Report; Queensland Government, 2001, *State Budget 2000-01 Economic and Revenue Outlook*, Budget Paper No. 3.

Further details on the assumptions and methodology adopted in this report are provided in [Appendix A](#).

4. Results

The following section provides indicative information on the magnitude of annual state general business tax liabilities faced by the SBTC modelled reference business as at 31 December 2012 if it were to operate in different jurisdictions.

4.1 State tax liability

In 2011 the reference business will be expected to pay, on average, \$277,913 in selected state business taxes and fees (Table 3).⁸

This represents about 18 per cent of the amount of commonwealth corporate income tax (CIT) paid - in other words, in addition to the reference business paying company tax levied by the

⁸ Information on the average amount of state business tax paid will differ from previous reports due to the inclusion of the ACT and NT in this study.

commonwealth government, the business pays the relevant state government tax imposed on it which equates to approximately 18 per cent of what is paid to the commonwealth.

Table 3: State general business tax liability

	Total (\$)	Percentage of corporate income taxation liability (per cent)
New South Wales	293,374	18.5
Victoria	280,978	17.7
Queensland	287,219	18.1
Western Australia	281,170	17.7
South Australia	308,254	19.4
Tasmania	297,392	18.7
Australian Capital Territory	309,810	19.5
Northern Territory	232,974	14.7
Average	286,396	18.1

As at 31 December 2012. Including payroll tax, land tax, land transfer duty, insurance duty, and motor vehicle duty. WA taxes include Metropolitan Regional Improvement Tax. Land tax on commercial properties in ACT abolished from 1 July 2012 with revenue transferred to general rates; ACT land tax calculation composed of general rate on value of commercial property less Fire and Emergency Services Levy.

Source: IPA State Business Tax Calculator.

The tax liability imposed on the reference business is lowest in the Northern Territory (\$232,974). This amount of liability is 18.9 per cent below the states' (unweighted) average, and 24.8 per cent below the ACT's tax liability. The Northern Territory was followed by Victoria (\$280,978) and Western Australia (\$281,170) in terms of imposing relatively competitive taxation burdens.

The Australian Capital Territory levies the highest tax liability of all the states. The reference business is estimated to incur a \$309,810 impost, which is about eight per cent above the states' average.

There is also significant variation between states in terms of liability imposed by specific taxes (Table 4). The Northern Territory imposes the lowest tax liability of all jurisdictions primarily as a consequence of its land tax-free status, while variations across other states also tend to be informed by land tax differentials.

Table 4: State general business tax liability for selected taxes

	Payroll tax (\$)	Land tax (\$)	Stamp duties (\$)
New South Wales	207,429	25,888	60,056
Victoria	192,768	12,076	76,134
Queensland	200,928	29,632	56,659
Western Australia	205,372	7,757	68,040
South Australia	192,260	46,059	69,935
Tasmania	211,917	26,704	58,771
Australian Capital Territory	187,282	52,081	70,447
Northern Territory	164,122	0	68,851
Average	195,260	25,025	66,112

As at 31 December 2012. Including payroll tax, land tax, land transfer duty, insurance duty, and motor vehicle duty. WA taxes include Metropolitan Regional Improvement Tax. Land tax on commercial properties in ACT abolished from 1 July 2012 with revenue transferred to general rates; ACT land tax calculation composed of general rate on value of commercial property less Fire and Emergency Services Levy.

Source: IPA State Business Tax Calculator.

4.2 Impact of reference business scale on state tax liabilities

The IPA SBTC allows the calculation of tax liability according to the size of the business.

Table 5 illustrates the expected taxes to be paid by the reference business of different scale economies. The alternative scales selected are 10 per cent, 50 per cent and 200 per cent of the size of the reference business.

Table 5: State general business tax liability for selected reference business scales

	10 per cent scale Total (\$)	50 per cent scale Total (\$)	100 per cent scale Total (\$)	200 per cent scale Total (\$)
New South Wales	3,530	121,599	293,374	651,718
Victoria	3,734	121,984	280,978	612,572
Queensland	3,405	104,147	287,219	619,004
Western Australia	3,810	114,161	281,170	627,777
South Australia	4,660	122,692	308,254	680,632
Tasmania	5,142	114,129	297,392	664,615
Australian Capital Territory	8,959	86,980	309,810	765,009
Northern Territory	3,747	95,944	232,974	548,447
Average	4,623	110,204	286,396	646,233

As at 31 December 2012. Including payroll tax, land tax, land tax, land transfer duty, insurance duty, and motor vehicle duty. WA taxes include Metropolitan Regional Improvement Tax. Land tax on commercial properties in ACT abolished from 1 July 2012 with revenue transferred to general rates; ACT land tax calculation composed of general rate on value of commercial property less Fire and Emergency Services Levy.

Source: IPA State Business Tax Calculator.

At the smallest reference business scale calculated (10 per cent of normal size), the tax liability imposed by the Queensland (\$3,405) is the lowest of all jurisdictions. This is followed by NSW (\$3,530), Victoria (\$3,734), NT (\$3,747) and WA (\$3,810). As the business increases in size the tax advantage of Queensland dissipates and is, in effect, replaced by the Northern Territory as the lowest taxing jurisdiction at the normal business reference scale.

Further insights on the effect of scale on general business tax liabilities can be obtained by disaggregating the data in Table 5 on the basis of specific taxes (Table 6).

At the lowest reference business scale calculated, Queensland has the lowest liabilities whereas the imposition of land taxes in the ACT and Tasmania renders these jurisdictions as the highest and second highest taxing jurisdictions at the ten per cent scale level respectively.

For a large business (scaled up at 200 per cent of the reference business size), the ACT imposes the greatest general business tax burden (\$765,099) followed by South Australia (\$680,632) and Tasmania (\$664,615).

Table 6: State general business tax liability for selected taxes and reference business scales

	Payroll tax (\$)	Land tax (\$)	Stamp duties (\$)
10 per cent scale			
New South Wales	0	0	3,530
Victoria	0	0	3,734
Queensland	0	0	3,405
Western Australia	0	0	3,810
South Australia	0	0	4,660
Tasmania	0	1,017	4,126
Australian Capital Territory	0	5,225	3,734
Northern Territory	0	0	3,747
Average	0	780	3,843
50 per cent scale			
New South Wales	85,239	9,826	26,533
Victoria	82,909	3,006	36,069
Queensland	67,808	12,566	23,774
Western Australia	82,061	1,634	30,466
South Australia	81,280	9,540	31,872
Tasmania	75,153	11,646	27,330
Australian Capital Territory	33,703	25,909	27,367
Northern Territory	40,811	0	55,132
Average	68,621	9,266	32,318
100 per cent scale			
New South Wales	207,429	25,888	60,056
Victoria	192,768	12,076	76,134
Queensland	200,928	29,632	56,659
Western Australia	205,372	7,757	68,040
South Australia	192,260	46,059	69,935
Tasmania	211,917	26,704	58,771
Australian Capital Territory	187,282	52,081	70,447
Northern Territory	164,122	0	68,851
Average	195,260	25,025	66,112
200 per cent scale			
New South Wales	451,810	64,391	135,517
Victoria	412,486	47,825	152,261
Queensland	425,984	60,233	132,787
Western Australia	451,995	33,622	142,161
South Australia	414,220	120,348	146,064
Tasmania	485,443	56,821	122,351
Australian Capital Territory	494,439	104,424	166,236
Northern Territory	410,745	0	137,703
Average	443,390	60,958	141,885

As at 31 December 2012. Including payroll tax, land tax, land tax, land transfer duty, insurance duty, and motor vehicle duty. WA taxes include Metropolitan Regional Improvement Tax. Land tax on commercial properties in ACT abolished from 1 July 2012 with revenue transferred to general rates; ACT land tax calculation composed of general rate on value of commercial property less Fire and Emergency Services Levy.

Source: IPA State Business Tax Calculator.

5. Conclusion

The publication of results generated by the IPA State Business Tax Calculator potentially has a more far reaching objective than to provide a transparent, robust comparison of state business tax liabilities for a real or hypothetical business, as important as this may be.

It is hoped that the publication of these results will also help to foster greater yardstick competition between the states. As competitive pressures between states puts downward pressure on tax liabilities, businesses and citizens stand to benefit from the consequent cost savings and greater incentives to grow, save, invest and employ resources.

As this paper has shown, transaction-based business taxes at the state level with relatively low thresholds disproportionately affect smaller businesses. This affects their capacity to acquire capital, labour and materials to expand.

At the other end of the scale, larger businesses are also adversely affected by state business taxation. In general terms, larger businesses tend to employ large numbers of people and invest significant amounts of capital in an attempt to exploit economies of scale and scope. State taxes can often have deleterious consequences, at least at the margin, for the further expansion of existing firms.

Based on the analysis presented in this edition of the IPA state tax benchmarking exercise, it is clear that state taxation should be reformed as a matter of priority to promote business development that, in turn, leads to sustainable investment, jobs and growth.

Attachment A: Methodology and assumptions

A.1 Introduction

The Institute of Public Affairs State Business Tax Calculator (SBTC) is a quantitative spreadsheet model used to estimate financial liabilities imposed on real or hypothetical businesses attributable to state business taxes, including payroll tax, land tax, stamp duties, motor vehicle registration fees and workers' compensation premiums.

A.2 Explaining the 'reference business' concept

For the purpose of this study, a hypothetical business – labelled a 'reference business' – was developed to generate comparable business tax liability estimates across the six Australian states and two territories.

The underpinning financial and operational characteristics of the reference business are drawn from the 'case study company' used in the *Paying Taxes* module of the annual World Bank *Doing Business* competitiveness project. The uniform characteristics are selected to ensure that differences in state business tax liabilities reflect variations in tax structures, and not upon the underlying structure of the reference business construct.

Using information contained in the latest *Paying Taxes* report, a balance sheet (Table A.1) and profit-and-loss statement (Table A.2) is devised for the reference business.

Table A.1: Balance sheet for reference business

Category	Multiplication factor	Value (\$)	Category	Multiplication factor	Value (\$)
Current assets			Current liabilities		
Net cash	20	1,338,520	Short term debt	43	2,877,818
Inventory	35	2,342,410	Accounts payable	50	3,346,300
Accounts receivable	50	3,346,300			
Fixed assets (acquisition value)			Long term liabilities		
Land	30	2,007,780	Long term debt	55	3,680,930
Buildings	40	2,677,040			
Machinery	60	4,015,560	Equity		
Motor vehicles	5	334,630	Paid-in capital	102	6,826,452
Computers	5	334,630			
Office equipment	5	334,630			
Total assets	250	16,731,500	Total liabilities and equity	250	16,731,500

As at 31 December 2012.

Source: PricewaterhouseCoopers, 2011, *Paying Taxes 2012: The global picture*; IPA calculations.

Specific weights are then applied to each line item of the accounts – for example, turnover is assumed to be 1,050 times income per capita. For this study, these weights are called ‘multiplication factors.’ We then apply Australia’s GDP per capita (estimated at \$65,389 for 2011-12) to each multiplication factor to derive a value for each account line item.

Estimated tax results using this methodological approach can vary from year to year to the extent that the ‘flex mechanism’ of GDP per capita changes.

Table A.2: Profit-and-loss statement for reference business

Category	Multiplication factor	Value (\$)
Sales	1,050	70,272,300
Cost of goods sold	875	58,560,250
Salaries for managers	9	602,334
Salaries for assistants	10	669,260
Salaries for workers	48	3,212,448
Administrative expenses	10	669,260
Advertising expenses	10.5	702,733
Machinery repaid	3	200,778
Interest expense	5.5	368,093
Profit	79	5,287,154

As at 31 December 2012.

Source: PricewaterhouseCoopers, 2011, *Paying Taxes 2012: The global picture*; IPA calculations.

Of these line items, those which are subject to state business taxes are selected as inputs for the SBTC.

Additional assumptions are required to ensure comparability of liabilities upon the reference business across jurisdictions:

- The business will sell property at a price equivalent to 25 per cent of the total value of land held.
- The business will pay ten per cent of administrative expenses in insurance premiums, excluding workers' compensation and motor vehicle insurance premiums.
- The business pays insurance premiums on motor vehicles owned at a rate of five per cent of the total value of vehicles owned.
- The business sells motor vehicles at a price equivalent to 25 per cent of the total market value of vehicles owned.
- The business owns five vehicles (cars), all of which are subject to vehicle registration fees and insurance.
- It is assumed that the business does not employ apprentices or trainees.

Table A.3: Values of selected transactions for reference business

Category	Value (\$)
Total land value	2,007,780
Sale price of land	1,171,205
Total salaries	4,484,042
Business insurance	66,926
Total value of vehicles	334,630
Vehicle insurance	16,732
Purchase/sale of second-hand vehicle	83,658
Profit	5,287,154
Corporation tax liability	1,586,146

As at 31 December 2012.

Source: IPA calculations.

A.3 Reference business scale

The IPA SBTC includes a scaling factor to adjust the size of the reference business in an equi-proportional manner. For example, if the reference business size is scaled up by ten per cent then all financial aggregates and transactions are increased by that amount.

A.4 Quality checks

To ensure the accuracy and robustness of the estimates generated by the SBTC, the results are tested against tax calculators provided by state and territory governments.