



Directions for State Tax Reform

Staff
Research Paper

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PREFACE

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ABBREVIATIONS

Abbreviations used in text

ABS	Australian Bureau of Statistics
ACOSS	Australian Council of Social Services
ACT	Australian Capital Territory
AETR	Average effective tax rate (across all taxpayers)
AGPS	Australian Government Publishing Service
ANU	Australian National University
ASX	Australian Stock Exchange Limited
ATO	Australian Taxation Office (Commonwealth)
ATRF	Australian Tax Research Foundation
BAD	Bank account debits tax
BIE	Bureau of Industry Economics
BTCE	Bureau of Transport and Communications Economics
CGC	Commonwealth Grants Commission
CIE	Centre for International Economics
CLR	Commonwealth Law Reports
CV	Compensating variation
DPR	Dividend payout ratio
DWL	Deadweight loss
EFTPOS	Electronic funds transfer at point of sale
EPAC	Economic Planning Advisory Council/Commission
ETR	Effective tax rate (for an individual taxpayer)
EV	Equivalent variation
FID	Financial institutions duty

FBT	Fringe benefits tax (Commonwealth)
GDP	Gross Domestic Product
GSP	Gross State Product
GST	Goods and services tax
IAC	Industries Assistance Commission
IC	Industry Commission
IPA	Institute of Public Affairs
LCA	Labour Costs Australia (ABS 6348.0)
LSD	Loan security duty
MPB	Marginal private benefit
MPC	Marginal private cost
MSB	Marginal social benefit
MSC	Marginal social cost
MSD	Marketable securities duty
MXSB	Marginal excess burden
NBFI	Non-bank financial institution
NHMRC	National Health and Medical Research Council
NPA	National Party of Australia
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
PC	Productivity Commission
PMC	Department of Prime Minister and Cabinet (Commonwealth)
PSA	Prices Surveillance Authority
QCCI	Queensland Chamber of Commerce and Industry
Qld	Queensland
RBA	Reserve Bank of Australia
SA	South Australia
SBDTF	Small Business Deregulation Task Force

Tas.	Tasmania
Vic.	Victoria
VCIRR	Victorian Committee Inquiry into Revenue Raising (1983)
VAT	Value added tax
WA	Western Australia
WSS	Wages, salaries and supplements
WST	Wholesale sales tax (Commonwealth)

Abbreviations used in tables

cpl	cents per litre
na	not applicable
ne	not estimated
nei	not elsewhere identified
nsr	not separately reported
nss	not statistically significant
pa	per annum
pm	per month
–	not levied
...	levied, but less than \$0.5 million
∞	infinity

GLOSSARY

Ad valorem tax	Tax levied as a percentage of the price of a good (as opposed to a <i>Specific tax</i>)
Average effective rate of taxation (AETR)	Total tax paid divided by the tax base, expressed as a percentage. Takes into account the impact of exemptions, rebates, evasion, etc.
Average tax rate	See <i>Tax rate, average</i>
Bank account debits tax (BAD tax)	Tax levied on all withdrawals from accounts held at financial institutions with cheque writing facilities (also known as <i>Debits tax</i>)
Business franchise fee	See <i>Franchise fee</i>
Cap	A limit on the maximum amount of tax payable
Cascading	Taxing the same base more than once
Clawback scheme	Scheme designed gradually to reclaim the tax revenue forgone on the tax-free threshold
Concession	Discount on the amount of tax payable, or some other preferential treatment
Constant returns to scale	A uniform percentage increase in all inputs used in the production process will raise output by the same proportion
Consumption tax	Tax levied on the consumption of goods and services, usually paid at the time of purchase. Different forms exist (eg. wholesale sale tax, value-added tax) (see also <i>Expenditure tax, indirect</i>)
Contracts and conveyancing duty	See <i>Conveyancing duty</i>
Conveyancing duty	Tax levied on the value real property

	transfers (land plus structures) (also known as <i>Contracts and conveyancing duty</i> or <i>Stamp duty on conveyances</i>)
Economic incidence	Who ultimately bears the burden of the tax once the adjustments to economic behaviour have taken place (as opposed to <i>Legal incidence</i>)
Efficiency	Effect of a tax on resource allocation. Usually measured by the combined change in consumer well-being and producer profits, net of tax revenue transferred to government
Efficiency loss, marginal	The change in efficiency caused by raising an extra dollar of tax revenue (as opposed to <i>Efficiency loss, total</i>)
Efficiency loss, total	Total loss (or gain) in efficiency caused by a tax in excess of the revenue collected (as opposed to <i>Efficiency loss, marginal</i>)
Equity, horizontal	Similar treatment of individuals in similar circumstances
Equity, vertical	Different treatment of individuals in different circumstances, with those better-off bearing a greater tax burden than those less well off
Excess burden	See as <i>Efficiency loss, total</i>
Exemption	Part of the tax base not subject to taxation (see also <i>Tax-free threshold</i>)
Expenditure tax, direct	Tax levied on the value of income less savings (as opposed to an <i>Expenditure tax, indirect</i>)
Expenditure tax, indirect	Tax levied on the value of goods and services purchased. Similar to a <i>Consumption tax</i> (as opposed to an <i>Expenditure tax, direct</i>)
External effect	See <i>Externality</i>
Externality	When an activity, such as smoking,

	directly affects the well-being of other individuals in a way that is not reflected in prices or otherwise taken into account by the person undertaking the activity
Financial institutions duty (FID)	Tax levied on the value of receipts of financial institutions and on the average daily liabilities of short-term money market dealers
Franchise fee	Tax levied on wholesalers or retailers in order to undertake certain activities (eg. selling liquor, petroleum or tobacco)
General government sector	All government activity (Commonwealth, State and local) related to the provision of public services (mainly non-market in nature and for the collective consumption of the community) (ABS 6348.0, p. 44).
Harmonisation	Moving towards greater uniformity in the definition of the tax base (as opposed to <i>Standardisation</i>)
Horizontal equity	See <i>Equity, horizontal</i>
Intra-governmental transfer	Transfer between agencies of the same level of government
Land tax	Tax levied on the unimproved value of selected categories of land held at a particular date
Lease duty	Tax levied on the rental value of non-residential tenancy agreements
Legal incidence	The party legally required to pay the tax (as opposed to <i>Economic incidence</i>)
Loan security duty	Tax levied on the value of secured loans (also known as <i>Mortgage and loans security duty</i>)
Local government rates	See <i>Municipal rates</i>
Marginal efficiency loss	See <i>Efficiency loss, marginal</i>
Marginal excess burden	See <i>Efficiency loss, marginal</i>

Marginal rate of tax	See <i>Tax rate, marginal</i>
Marketable securities duty	Tax levied on the transfer of shares and other marketable securities (also known as <i>Share transfer duty</i>)
Mortgage and loans security duty	See <i>Loans security duty</i>
Municipal rates	Tax levied by local government on the ownership of land (also known as <i>Local government rates</i>)
Ownership-based tax	Tax on the ownership of an asset at a particular date (as opposed to a <i>Transaction tax</i>)
Payroll tax	Tax levied on employers based on the value of wages and certain supplements paid or payable to, or on behalf of, their employees
Progressive tax	Where the average rate of taxation increases with income
Proportional tax	Where the average rate of taxation is the same for all income levels
Public enterprise sector	All government activity (Commonwealth, State and local) directed at providing goods and services for market (includes financial services)
Public sector	Comprises <i>General government</i> and <i>Public enterprise sector</i>
Rebate	An amount by which tax liability is reduced
Refund	When some, or all, of the tax paid is returned to the taxpayer
Regressive tax	Where the average rate of taxation falls as income rises
Share transfer duty	See <i>Marketable securities duty</i>
Specific tax	Where the amount of tax payable is expressed as a dollar amount per physical

	unit (as opposed to an <i>Ad valorem tax</i>)
Stamp duty	Tax levied on certain paper and electronic transactions. Traditionally, documents needed to bear an official pre-paid tax stamp in order to be legally valid
Stamp duty on conveyances	See <i>Conveyancing duty</i>
Standardisation	Where the States levy a tax at the same rate on the same base (as opposed to <i>Harmonisation</i>)
Statutory rate of taxation	The rate at which the tax is legally levied (as opposed to <i>Average effective rate of taxation</i>)
Subsidiarity	Belief that the revenue raising or expenditure functions should be assigned to the lowest 'competent' tier of government
Tax base	Object to which the tax rate applies (eg. the value of land)
Tax competition	Where the States compete which each other by lowering tax rates, granting exemptions or some other special treatment
Tax expenditure	Amount of tax revenue forgone as a result of exemptions, tax-free thresholds, concessions etc

Tax rate, average	Total tax paid divided by the tax base expressed as a percentage (as opposed to <i>Tax rate, marginal</i>)
Tax rate, marginal	Percentage of an extra dollar of the tax base that is paid in tax (as opposed to <i>Tax rate, average</i>)
Tax-free threshold	Level of tax base below which no tax is payable
Taxpayer	Person or organisation who pays the tax to the revenue office
Total deadweight loss	See <i>Efficiency loss, total</i>
Transaction tax	A tax on a particular transaction, such as the transfer of land or depositing money in a financial institution (as opposed to an <i>Ownership-based tax</i>)
Turnover tax	Tax levied on value of a particular transaction (price times the quantity)
Vertical equity	See <i>Equity, vertical</i>

EXECUTIVE SUMMARY

The recent tax debate is mainly about reforming Commonwealth rather than State taxes. Discussion about State and Territory (hereafter ‘State’) involvement is usually in the context of reforming Commonwealth/State financial relations to overcome the shortfall in State revenue relative to State expenditure — the so-called vertical fiscal imbalance (VFI). While these aspects of tax reform are vitally important, there is more to State tax reform than resolving the vexatious question of VFI.

This paper considers measures that State and local governments could take themselves, either individually or collectively, to reform their tax systems. It generally does not presume any action on the part of the Commonwealth.

Partly as a consequence, the paper also takes as given the current level of revenue to be raised by State and local governments to fund expenditure necessary to meet economic and social objectives.

State and local governments levy taxes on a diverse range of activities, from payrolls to gambling, from land to health insurance, and from hire purchase agreements to car parking spaces. Most of the taxes are levied on fairly narrow bases and raise only limited amounts of revenue. However, some raise substantial revenue and are large, even by Commonwealth standards (Chapter 2).

The main sources of State tax revenue are taxes on payrolls, land, financial transactions, motor vehicles and gambling. *Franchise fees* on the sale of petroleum, tobacco and liquor are also a major State revenue source. Following a recent High Court decision, these fees are now collected by the Commonwealth on behalf of the States.

This paper focuses on four major State government taxes — *payroll taxes*, *land taxes*, *financial taxes* and *franchise fees*. It assesses them against four broad criteria — efficiency, equity, administration and compliance, and stability (Chapter 3).

According to these criteria, a good State tax system would have several key characteristics. It would raise the required tax revenue while imposing the least cost in terms of economic efficiency. To do so, it should have a minimal effect on the behaviour of producers and consumers. A good State tax system would not impose undue compliance costs on taxpayers, or administrative costs on State tax authorities. It would use tax bases that minimise the scope for

avoidance or evasion. While income redistribution need not be a prime concern of State levels of government, State tax systems should try to avoid exacerbating existing inequities. And State governments would prefer State tax bases to generate revenue that grows in line with essential requirements for public services.

Assessing current taxes

At present, large differences in tax rates within States detract from economic efficiency and generate substantial economy-wide losses (Chapter 4). The efficient tax bases — land and, to a lesser extent, payrolls — are not being tapped adequately, because of low statutory tax rates, and because of a wide range of rebates and exemptions. State *financial taxes* are particularly inefficient, as is *conveyancing duty*. State tax rates on spirits and tobacco appear too high, even taking the social costs of abuse into account. And State tax rates on petroleum products appear too low.

Many State taxes may seem to be fair, as the tax rates increase with the size of the taxable transaction (eg. *land tax*, *conveyancing duty* and *debts tax*). Many of the tax bases also constitute important components of wealth (eg. land, financial transactions, labour income). Despite this apparent fairness, more detailed analysis shows that the State taxes considered in this paper rate poorly in equity terms, often because of exemptions and other administrative arrangements. *Franchise fees* are particularly regressive.

Overall, State taxes are generally not particularly expensive to administer. *Land tax* is the most expensive because the land needs to be valued. However, part of this cost should be apportioned to *municipal rates*, which also rely on land values. Between them, these taxes raise a substantial amount of revenue.

Nevertheless, considerable scope exists for governments to lower the cost of collecting revenue. Significant cost savings are possible through greater cooperation between States in coordinating their taxes (especially definitions of the tax base), redesigning their taxes and simplifying compliance procedures. Administrative cost savings may also produce wider benefits — improving efficiency, equity and, in most cases, compliance costs.

Overall, the State tax bases appear to be relatively stable, although prone to short-term fluctuations. Such variations may cause the States some financial difficulties if they do not make adequate provisions during periods of above average growth.

This study concludes that no one tax performs well against all of the assessment criteria.

Municipal rates and *payroll tax* rate well against most criteria, but poorly against either administration or compliance costs. *Land tax*, as currently implemented, rates poorly against both administration costs and equity, but could be easily modified to perform well against the equity criterion.

At the other end of the spectrum, a number of States taxes — most notably *debts tax*, most *stamp duties* (including *conveyancing duty*), and the *franchise fee* on spirits — perform poorly against the key efficiency and equity criteria. In addition, a number of *stamp duties* raise only modest amounts of revenue. *Financial taxes* are likely to be particularly inefficient because the tax bases are highly mobile between States and, increasingly, between countries, and many substitute financial instruments are taxed differently. In these circumstances, these taxes are likely to have a significant impact on behaviour.

The remaining State taxes — primarily the *franchise fees* on beer, wine, tobacco and petroleum products — lie in between, performing better against some criteria than others. They generally perform well on efficiency grounds, though poorly on equity grounds. However, externalities associated with the consumption of commodities subject to *franchise fees* argue for keeping these taxes, despite their inequities.

The assessment highlights that, in judging State taxes, the efficiency and equity criteria tend to reinforce each other. Efficient State taxes tend to be equitable taxes, while inefficient State taxes are generally inequitable. This suggests that the States could raise the same revenue more efficiently and fairly than they currently do.

Assessing various reform options

A range of reform options has been canvassed in public debate. Indeed, many of these options have been raised in previous reports of the Industry Commission. This paper does not put forward recommendations. Rather, it considers various reforms that have been advanced against the background of the preceding analysis.

Some of the problems with State taxes could be addressed by improving the design and implementation of existing taxes (Chapter 5). But, where the efficiency costs of current taxes are relatively large, significant improvement may require lowering tax rates and recovering the revenue elsewhere. This would imply a change in the mix of taxes used. Further improvements could be achieved by extending the scope of State taxation beyond the bases currently in use. However, this would require the assistance of the Commonwealth, and/or amendments to the Australian Constitution.

Improving existing State taxes

A number of general reforms have been advanced:

- making greater use of *user charges* for services, such as water and garbage disposal, so that users have important information about the cost of providing the service;
- harmonising State tax bases (ie. employing standard definitions and thresholds across States) to reduce the incentives for firms to rearrange their affairs across States and to lower compliance costs for firms that operate in more than one jurisdiction;
- reviewing those State taxes designed to correct for externalities as well as raising revenue (probably best done in cooperation with the Commonwealth); and
- addressing equity concerns through well-designed concessional arrangements and, wherever possible, specifying State tax rates in percentage or ad valorem terms.

Within the current broad tax mix, the States could also improve efficiency somewhat by replacing all State *financial taxes* with a single *broad-based financial tax*. Such a *broad-based financial transactions tax* might resemble the States' existing *financial institutions duty (FID)* — levied on a broad base at a single ad valorem rate — without a cap on the maximum amount payable. The States could levy the new tax either on deposits (as is currently the case with *FID*) or withdrawals. In the long term, the two approaches would be more or less equivalent (with some timing differences in revenue collection).

The States could reduce the frequency of monthly *payroll tax* payments to reduce the high compliance costs associated with the tax. Business would still be required to pay the same amount of tax, but on a less frequent basis. In addition:

- Queensland and the Northern Territory could expand their *payroll tax* bases to include employer superannuation contributions — an important first step in standardising the definition of *payroll* among States; and
- Western Australia and the Northern Territory could consider simplifying their complicated deduction schemes, either by moving to a single marginal rate scheme (as in New South Wales) or by employing a simpler deduction scheme (as in Queensland).

With harmonisation, each State eventually would employ the same *payroll tax* structure (though not necessarily have the same payroll tax rates).

Changing the tax mix

Other options have canvassed ways in which the States could further improve the performance of their tax system by changing the way certain taxes operate and by altering the tax mix used to raise revenue.

While the reforms noted above could improve the efficiency of *financial taxes* to some extent, they would remain relatively inefficient for two main reasons. The tax base — the size of the financial transaction — would remain a poor proxy for the underlying service being rendered. And a *broad-based financial tax* would still cascade along the production chain, creating a ‘taxes-on-taxes’ problem. Its efficiency is also likely to be reduced by technological developments — such as electronic commerce — that will increase the geographic mobility of financial transactions dramatically. Consequently, a better option may be for the States to abolish *financial transactions taxes* altogether, and to raise the forgone revenue another way.

Conveyancing duty discourages mobility and is indiscriminate in whom it affects. Although the rate of duty payable increases with the value of the property, *conveyancing duty* is inequitable in that it applies only to those who move, unlike *municipal rates* or *land tax*. When duty is payable, the amount paid is substantial — both in absolute terms and as a proportion of the underlying value of the transaction — implying that it may alter behaviour significantly. Thus, *conveyancing duty* is both inefficient and inequitable. One option would be, therefore, to abolish *conveyancing duty* and raise the revenue forgone through an increase in *land tax*.

There appears to be considerable scope for the States to place greater reliance on *land tax* as a source of revenue. Extending *land tax* to owner-occupied housing, as New South Wales has done recently, would ensure more equitable treatment of home owners and renters. It is clearly unfair that home owners, who tend to be more affluent than renters, are exempt from *land tax*. Such a move would improve both the efficiency and fairness of the *land tax*.

Broadening the *land tax* base may cause financial difficulty to low income home owners. If this is the case, the States could consider raising the tax-free threshold. The threshold could be indexed to eliminate the effect of bracket creep brought about by increases in nominal property values. In addition, the States could continue to offer concessional arrangements to those in genuine need (eg. pensioners).

In its current form, *payroll tax* is one of the broadest and appears to be one of the more efficient taxes used by the States. Thus, it is also a candidate to be used to recover revenue forgone by abolishing relatively inefficient taxes.

The efficiency cost estimates suggest that base-broadening measures would be preferable to raising payroll tax rates. Currently, only 8 per cent of private sector firms pay *payroll tax*. The current tax-free thresholds cannot be justified on the grounds that the revenue forgone is fully offset by avoided administration and compliance costs. Some form of threshold may be justified on these grounds, but it would be lower than currently. The efficiency cost estimates suggest that payroll taxes could even be raised slightly to replace revenue forgone on other taxes, while still allowing an improvement in overall efficiency.

Once plausible estimates of the externalities associated with petroleum products, alcohol and tobacco use are taken into account, the efficiency costs of State taxes on tobacco and spirits appear relatively high, while those on petroleum products appear relatively low. Hence, the States could improve overall economic efficiency substantially by lowering their *franchise fees* on tobacco and spirits, and recovering the forgone revenue by raising State taxes on petroleum products.

Going beyond current State tax bases

Broadening the current set of State taxes would offer scope to use taxes which are not only more efficient, but also more equitable. However, options that involve a broad expenditure or income base — allowing a reduction or replacement of the more distorting existing taxes — would require the cooperation of the Commonwealth and/or amendments to the Constitution.

1 SCOPE OF THIS STUDY

The call for tax reform has grown more frequent in recent times. Most of the current debate is about reform of Commonwealth rather than State taxes. Even where State tax reform is mentioned, the discussion is usually about reforming Commonwealth/State financial relations to overcome the shortfall in State revenue relative to State expenditure — the so-called vertical fiscal imbalance (VFI). While these aspects of tax reform are vitally important, there is more to State tax reform than resolving the vexatious question of VFI.

The purpose of this research paper is to assess a range of State taxes with a view to identifying types of State tax reform that could improve national welfare.

The paper takes a number of things as given.

The first is the current structure of Commonwealth/State financial relations, and the current extent of vertical fiscal imbalance. The paper is about measures that the States could take themselves, either individually or collectively, to reform State taxes. It does not presume any action on the part of the Commonwealth. Thus, it does not consider the scope for more comprehensive tax reform that could be achieved by the States involving the Commonwealth in negotiations on alternative revenue-raising or revenue-sharing arrangements.

Partly as a consequence, the paper also takes as given the current level of revenue to be raised by State governments. It recognises that State governments need to raise revenue to fund necessary expenditure on economic and social infrastructure, while current Commonwealth/State financial relations condition the amount to be raised by taxes relative to other means.

A good State tax system would raise the required tax revenue while imposing the least cost in terms of economic efficiency. It would not impose undue compliance costs on taxpayers, or administrative costs on State tax authorities. It would use tax bases that minimise the scope for avoidance or evasion. While income redistribution need not be a prime concern of State levels of government, State tax systems should try to avoid exacerbating existing inequities. And State governments would prefer State tax bases to generate revenue that grows in line with the size of their economies. This paper assesses a range of State taxes against these criteria — efficiency, equity, administration and compliance, and stability.

Where a State tax rates poorly against some or all of these criteria, modifications to improve its performance are sometimes feasible. Where taxes impose undue administration and compliance costs, for example, there are often

ways in which the tax administration can be improved. But where a State tax imposes undue costs in terms of economic efficiency, there is sometimes little that can be done other than to reduce the tax rate or eliminate the tax entirely. This comes at a cost to State tax revenue.

Assuming revenue neutrality, the lost revenue has to be made up in other ways — by raising other tax rates, improving compliance rates, or by introducing new taxes with lower efficiency costs. Thus, accepting the principle of revenue neutrality has important implications for the kinds of reforms the paper needs to consider — when it comes to economic efficiency, tax reform in this context inevitably becomes an issue of the tax mix.

The paper considers a relatively wide range of existing State taxes, so as to cover a broad range of tax mix options. It also notes the characteristics of some of the taxes that could be used by the States, but currently aren't. Throughout, the paper takes as given the restrictions on State taxation imposed by the Australian Constitution.

Among existing State taxes, the paper examines those on payrolls, land and financial transactions. It also considers State franchise fees — recently ruled unconstitutional by the High Court — since the interim revenue raising arrangements levied by the Commonwealth, at the behest of the States, essentially duplicate the previous arrangements.

However, there are some important omissions, a major one being State taxes on gambling. These taxes have characteristics that contribute to inefficiency — the tax rates vary not only among races (horse, greyhound etc), casinos, lotteries, poker machines and sports betting, but often among establishments (eg. clubs and hotels) and among the type of bet (eg. wins, places, quinellas, exactas, doubles and trifectas, soccer pools and keno) (NSW Treasury 1997). Detailed analysis of gambling taxes remains an outstanding research task. The paper also ignores non-tax sources of State government revenue — explicit user charges, and dividends and other revenue from government business enterprises.

While the main focus is on State and Territory taxes, the paper also covers the few taxes levied by local governments. State governments control the revenue raising options available to local governments, and the existence of local government taxes affects the efficiency of State government taxes. Throughout this paper, the term State government refers to both State and Territory governments. Where relevant, this report separately identifies local government taxes. Because of time constraints, the paper does not cover the most recent changes to State and local government tax arrangements announced in 1998–99 budgets.

While taking Commonwealth/State financial relations as given, the paper cannot completely ignore the role of the Commonwealth Government. Where Commonwealth and State taxes apply simultaneously, the existence of Commonwealth taxes affects the efficiency of State government taxes, and this is taken into account in the analysis. In addition, any consideration of changes in the tax mix raises questions about which types of tax are most appropriately levied by which tier of government, and for what purpose. The paper accepts some of the principles that emerge from the literature on tax assignment in federation (Appendix A), including the principle, noted above, that any taxation for income redistribution purposes is most appropriately a Commonwealth rather than a State responsibility.

Chapter 2 in Part A provides an overview of the State and local government tax system and the mix of taxes currently employed. Chapter 3 gives the framework by which State taxes will be assessed. Chapter 4 assesses the major State taxes against the criteria discussed in Chapter 3, drawing on detailed assessments in Part B, Chapters 6 through 9. Chapter 5 identifies possible reform options open to the States.

2 THE STATE TAX MIX

State and local governments levy taxes on a diverse range of activities, from payrolls to gambling, from land to health insurance, and from hire purchase agreements to car parking spaces. Most of the taxes are levied on fairly narrow bases and raise only limited amounts of revenue. However, some raise substantial revenue and are large, even by Commonwealth standards.

This chapter gives a broad overview of the State tax mix, in terms of coverage and revenue raising potential. It also highlights differences between States in their dependence on different taxes.

More detailed descriptions in Chapters 6 through 9 highlight additional variations among States— in tax rates, in the definitions of the tax base, in the frequency of collection, and in the nature and extent of exemptions and rebates — even for the same tax. Such detail is also important in assessing the overall desirability of each form of taxation, and in identifying possible directions for reform. These issues are addressed in more detail in Chapters 4 and 5.

2.1 Main areas of taxation

Australian State and local governments levy almost 50 different taxes (Table 2.2 at the end of this chapter). Not all States levy the same taxes, but together they raise almost one dollar in every four collected through taxation in Australia.

The main areas subject to State taxation are:

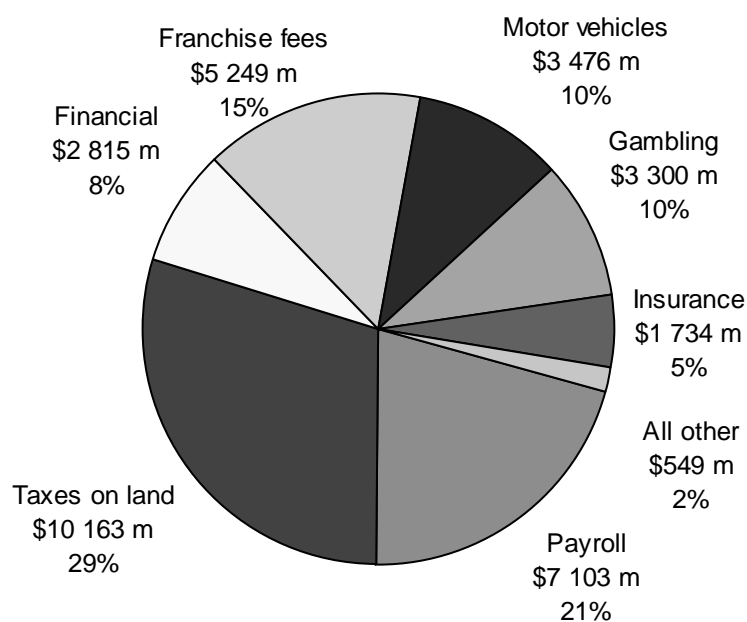
- payrolls (*payroll tax*);
- land (*municipal rates, land tax, conveyancing duty and lease duty*);
- financial transactions (*financial institutions duty, bank account debits tax, marketable securities duty and loan security duty*);
- motor vehicles (*registration fees, weight/vehicle tax and drivers licences*); and
- gambling (levied under various names, but primarily taxes on poker machine taxes, race betting and lotteries).

Prior to August 1997, State *franchise fees* on the sale or distribution of petroleum, tobacco, liquor, electricity and gas were also an important source of revenue for State governments. The High Court decision in the Walter Hammond case (August 1997) ruled that *franchise fees*, as traditionally levied

by the States, were excise duties and therefore unconstitutional.¹ Since then, State *franchise fees* on petroleum, tobacco and liquor have been replaced by Commonwealth taxation arrangements designed to raise the same revenue on behalf of the States.

Local governments levy only two taxes — *municipal rates* and (in Brisbane) *metropolitan improvement rates*. In addition, the South Australian Government directs 0.005 percentage points of its *financial institutions duty* towards local government (NSW Treasury 1997, p. 12).

Figure 2.1: Mix of State and local government taxes, Australia, 1995–96



Sources: ABS 5506.0 and Grants Commission (1997a, personal communication).

The biggest overall revenue source is *taxes on land*, which raised almost 30 per cent of all State and local government tax revenue in 1995–96 (Figure 2.1 and Table 2.3 at the end of this chapter). This is mostly from taxes on land ownership (70 per cent of the total), with transaction-based taxes accounting for the remainder. The next biggest revenue sources are *payroll tax* (21 per cent) and *franchise fees* (15 per cent). Other important revenue raisers are taxes on motor vehicles (10 per cent), gambling (10 per cent), financial transactions (8 per cent) and insurance (5 per cent). All other taxes collectively raised just 2 per cent of total State tax revenue in 1995–96.

¹ Ha and anor v. New South Wales & ors; Walter Hammond & Associates v. New South Wales & ors, High Court of Australia, 5 August 1997, Matter No: S96/009.

Among the individual taxes, the top three — *payroll tax*, *municipal rates* and *conveyancing duty* — each raised in excess of \$3 billion in 1995–95. Even the top 15 individual State taxes each raised in excess of \$500 million. Collectively, these 15 taxes raised \$30 billion, or just over 88 per cent of all State and local government tax revenue.²

By comparison, there are five Commonwealth taxes that each raise in excess of \$3 billion — *income tax* (including *capital gains tax*), *wholesale sales tax*, *excise duty*, *customs duty* and *fringe benefits tax*. The largest three of these Commonwealth taxes together raise just over \$104 billion, three times the entire revenue raised from all State and local government taxes.

Most State taxes are transaction-based taxes — tax is only payable when particular transactions occur. For example, *conveyancing duty* is only payable when land is purchased, and *stamp duty on motor vehicle registrations* is only payable when motor vehicles are registered. *Taxes on financial transactions* and most *gambling taxes* are also transactions-based. A few taxes are levied directly on the ownership of land, (eg. *municipal rates* and *land tax*). Other taxes, such as *motor vehicle weight tax*, are in some ways similar to ownership-based taxes. *Franchise fees* were supposedly not transactions-based, being taxes on the mandatory licences required to undertake certain business activities (eg. to sell or distribute petrol, tobacco or liquor).

The main focus in this paper is on *payroll tax*, *taxes on land*, *franchise fees* and *financial transactions taxes*. These taxes accounted for over seventy per cent of all State tax revenue for Australia in 1995–96. The first three of these taxes were clearly the most significant in revenue terms over that period (Figure 2.1). The decision to analyse *financial transactions taxes* ahead of *motor vehicle* and *gambling taxes*, both of which are more significant in revenue terms, was based on the perception that financial transactions taxes are relatively inefficient. Indeed, a number of reports have called for the abolition of, or substantial alteration to, State financial taxes (Chapter 8). Therefore, financial transactions taxes are potentially a more important element of State tax reform than their contribution to State revenue implies.

² The additional taxes are tobacco franchise fees (\$2.6 billion), motor vehicle registration taxes (\$2.1 billion), petroleum franchise fees (\$1.5 billion), land tax (\$1.5 billion), taxes on gambling machines (\$1.3 billion), financial institutions duty (\$1.1 billion), stamp duty on vehicle registrations (\$1.1 billion), taxes on insurance (\$1 billion), bank account debits tax (\$800 million), liquor franchise fees (\$700 million), race betting taxes (\$600 million), and taxes on government lotteries (\$600 million) (ABS 5506.0, Grants Commission 1997a, personal communication).

2.2 Interstate differences in the tax mix

There are noticeable differences in the tax revenue mix between States (Figure 2.2). These differences arise from two sources — differences in the nature of the taxes levied and differences in the reliance placed on them.

Differences in the taxes levied

New South Wales levies more taxes than does any other State, with 35 different taxes, while the ACT levies the least, with 26 (see Table 2.2 at the end of this chapter).³ Most States levy around 30 different taxes, but the tax mix varies between jurisdictions. Many of the less common taxes generate relatively little in the way of revenue.

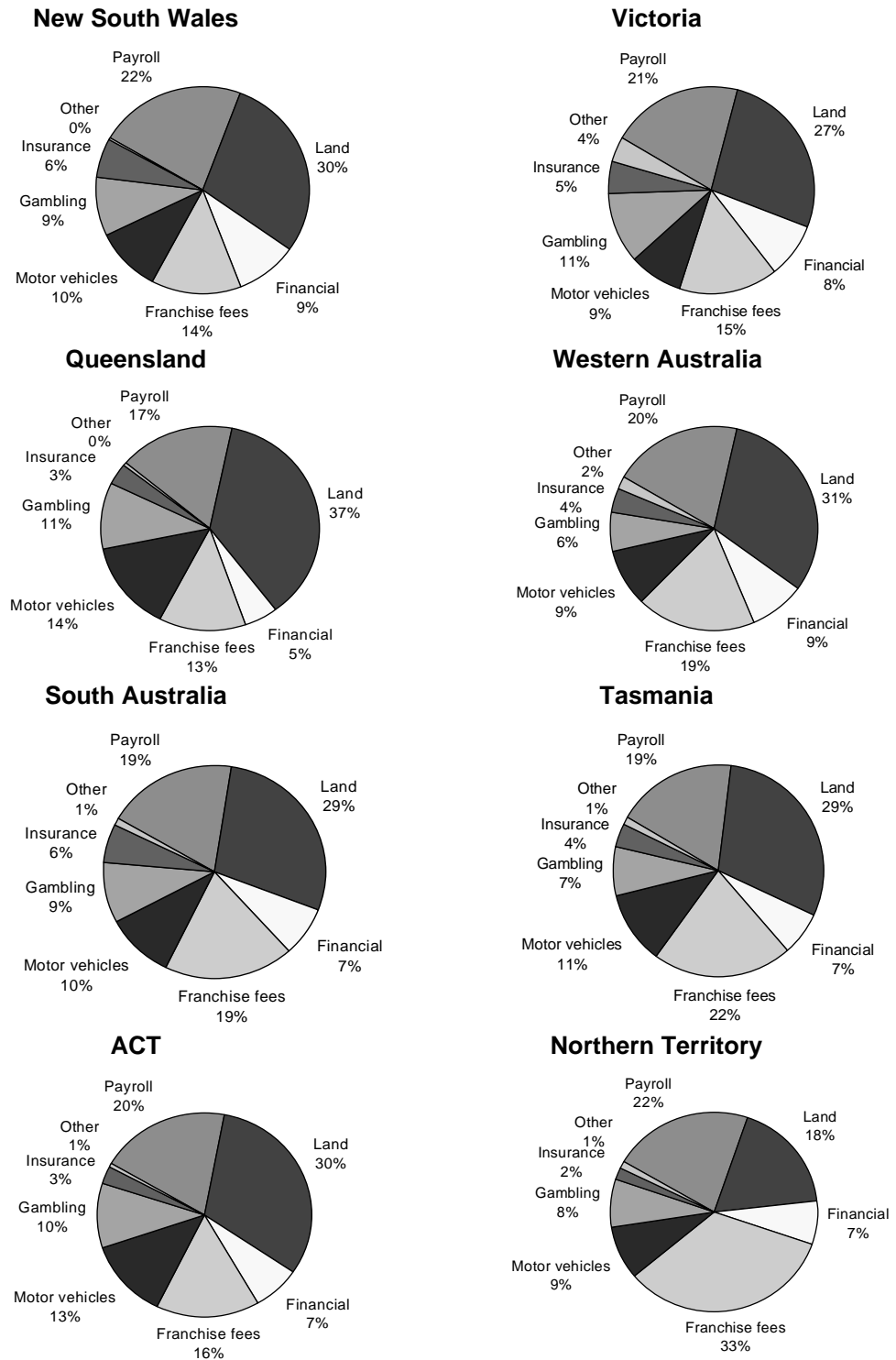
Queensland does not levy *financial institutions duty* or *petroleum franchise fees*, and the Northern Territory does not levy *land tax*. These differences alone account for much of the variation observed in Figure 2.2. Otherwise, most States levy the major revenue raising taxes considered in this paper.

Some of the current asymmetry in taxing arrangements has arisen through interstate differences in abolishing older, less efficient taxes. A number of the smaller financial taxes used to be levied more widely than they are today. *Discount transactions duty*, for example, which is now only levied in Queensland, used to be levied in New South Wales, Victoria, Western Australia and South Australia, but was abolished in the early 1980s (NSW Treasury 1997, p. 14). Similar examples involve *cheque duty* and the exemption on transfers from *marketable securities duty* (Chapter 8).

Historically, the larger States — Victoria and New South Wales — have generally been the first States to abolish older taxes, with other States generally following suit. By contrast, tax competition in the form of rate cuts and the broadening of exemptions has tended to originate in the smaller States (Chapters 6 through 9).

³ Each State levies a number of different taxes under the auspices of a *Stamp Duty Act*. However, the taxes themselves are distinct and have different economic effects. As a result, this paper treats these stamp duties as separate taxes in their own right.

Figure 2.2: Mix of State and local government taxes, by State, 1995–96



Sources: ABS 5506.0 and Grants Commission (1997a, personal communication).

State differences in tax mix have also arisen from timing differences in the introduction of new taxes. New South Wales, in particular, has recently introduced a number of new taxes — extending *franchise fees* to electricity and gas and introducing an *accommodation duty* (the so-called ‘bed tax’). In response to the declining importance of cheque-based transactions and the growth in electronic commerce, the Northern Territory has introduced an *electronic banking duty*. In many cases, these new taxes represent ad hoc extensions to the States’ embryonic taxation of services.

A number of taxes have been introduced to address issues of perceived regional importance. For example, the Northern Territory introduced an *alcohol levy* to assist in dealing with the social consequences of alcohol abuse. Victoria has similarly introduced a *health promotions levy* on the sale of tobacco and the *better roads levy* to fund road construction and maintenance. New South Wales introduced the *parking space levy* to discourage cars within the central business district of Sydney.

Differences in the mix of taxes levied by State governments reflect a range of other factors. Certain State governments have decided not to introduce certain taxes for political reasons. Governments may have believed the taxes were unnecessary, or that the political costs associated with their introduction did not justify the revenue they would raise. Governments may also have believed that by not levying a tax, the State would gain a competitive edge over other States in attracting or retaining businesses. Where taxes are levied, many of the exemptions or concessional arrangements likewise appear driven by tax competition, rather than by economy-wide efficiency considerations (Chapters 6 through 9).

Reliance on the taxes levied

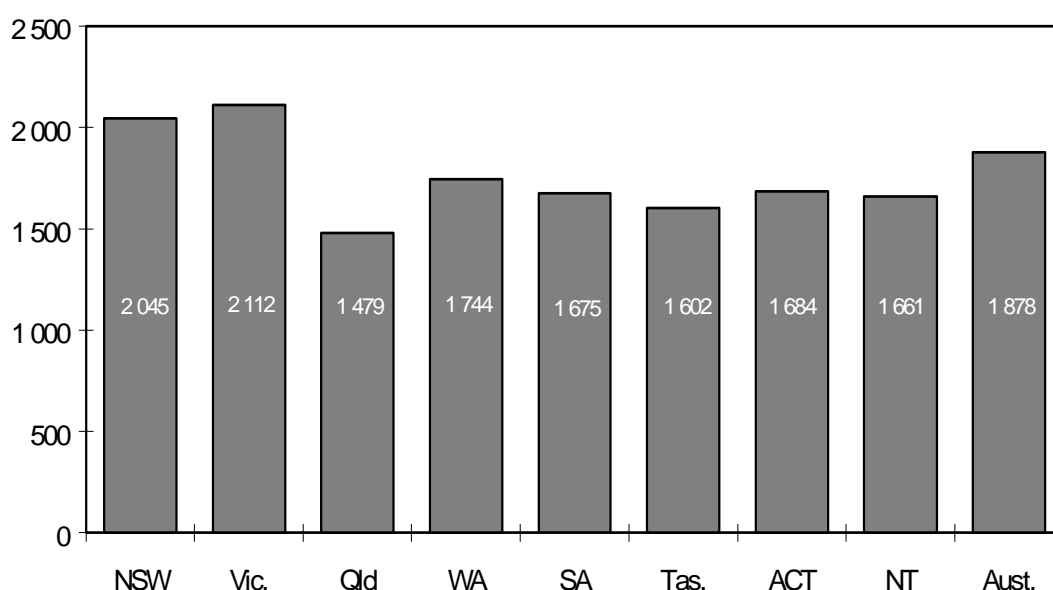
Even where States levy similar taxes, they do not always place the same reliance on them. For example, States do not employ standard definitions of what constitutes a payroll and what is exempt from tax. Additionally, tax rates vary considerably, as do the concessional arrangements provided to disadvantaged and other groups.

Overall, in 1995–96 Victorians paid more in State taxes than did residents of any other State, at just over \$2 100 per person, compared with the Australia-wide average of almost \$1 900 per person (Figure 2.3). Residents of New South Wales closely followed Victorians, paying just over \$2 000 per person in 1995–96. Queensland is the lowest tax State. On average, its residents paid less than \$1 500 in State taxes — some 20 per cent below the national average. The remaining States were bunched within the range \$1 600 to \$1 800 per

person. Table 2.4 at the end of this chapter reports the variations in per capita revenues for individual tax categories.

Preliminary figures for 1996–97 tell a broadly similar story (ABS 5506.0). State taxation has continued to grow, with the Australia-wide average per person rising from almost \$1 900 in 1995–96 to almost \$2 100 in 1996–97. Victoria and New South Wales remain the highest tax States.⁴ Queensland remains the lowest tax State, but the difference between it and Tasmania has narrowed.

Figure 2.3: Total per capita State tax revenue, 1995–96 (\$ per person)



Sources: ABS 3201.0, 5506.0 and Grants Commission (1997a, personal communication).

The State rankings of per capita tax revenue are not mere reflections of per capita expenditure. The smallest States — the Northern Territory, Tasmania and the ACT — had among the lowest per capita tax revenues in 1995–96, but the highest per capita expenditures (whether final consumption expenditure or total outlays). Victoria and Queensland had quite different rankings of per capita tax revenues, but among the lowest per capita expenditures.

⁴ The raw ABS numbers indicate that New South Wales has replaced Victoria as the highest taxing State in per capita terms for *Total taxes, fees and fines* (ABS 5506.0, p. 13), because of higher per capita *fees and fines*. Victoria remains the highest taxing State once *fees and fines* are excluded.

Revenue raising ability and effort

The differences in State revenue collections may reflect conscious decisions by government. However, they may also reflect differences in the size and structure of State economies which affect the ability of States to raise revenue through a given form of taxation. In recognition of these differences, the Commonwealth Grants Commission calculates an index of revenue raising potential for most State taxes (CGC 1997a, pp. 288 & 290). The Grants Commission also produces an index of the revenue raising effort, to indicate how effectively the States are using their revenue base (CGC 1997a, pp. 289 & 291).

According to the index of revenue raising potential, New South Wales is substantially better placed to raise revenue through State taxes than are other the States (Table 2.1). Western Australia was the only other State assessed to have an above average capacity to raise revenue. Victoria, Queensland and the Northern Territory were assessed to have broadly similar revenue raising capacities, marginally below the national average. Tasmania and South Australia were assessed to have considerably lower capacities to raise tax revenue.

Table 2.1: Indices of revenue raising capacity and effort, all State taxes, 1995–96

<i>State</i>	<i>Capacity</i> ^a	<i>Effort</i> ^b
New South Wales	108.3	102.6
Victoria	97.8	111.6
Queensland	96.4	81.0
Western Australia	102.5	94.3
South Australia	86.7	99.4
Tasmania	77.2	104.6
Australian Capital Territory	91.8	100.6
Northern Territory	96.8	106.5
Australia	100.0	100.0

a Indicates the ability of a State to raise revenue relative to the Australian average.

b Indicates the efforts made by individual State to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997a, pp. 292–293).

The index of revenue raising effort measures, on a per capita basis, the amount of revenue raised in a State relative to the Australian average amount of effort.⁵ The index shows that Victoria makes the most effort of any State, followed by the Northern Territory (Table 2.1). Despite its low revenue raising capacity, Tasmania makes an above average effort, as does New South Wales and the ACT. Reflecting its claim to be a low tax state, Queensland was assessed to have made considerably less effort to raise revenue through taxes than any other State. Western Australian was also assessed to be well below the national average for revenue raising effort.

Chapters 6 through to 9 include discussion of the revenue raising capacities and efforts of individual States in more detail for *payroll tax*, *land tax*, *conveyancing duty*, *financial transaction taxes*, *marketable securities duty* and *franchise fees*.

2.3 Conclusion

The main areas currently subject to State taxation are payrolls, land, financial transactions, motor vehicles and gambling. Prior to the recent decision of the High Court, franchise fees on the sale of particular commodities (primarily petroleum, tobacco and liquor) were also a major State revenue source.

There is noticeable variation in tax mix between States. Some of the variation has been the result of tax competition between States, often initiated by the smaller States. Some of it has come about as outmoded and inefficient taxes have been replaced by new ones, a process generally lead by the larger States. But some of the apparent variation in the State tax mix, as revealed by revenue figures, reflects different characteristics of the States themselves which affect their ability to raise revenue from a particular base.

⁵ In calculating the index, the Grants Commission compares actual revenue raised per capita to the hypothetical revenue that could be raised, if each State levied tax at the Australian average effective rate on a value-adjusted tax base — a base which reflects differences in revenue raising ability. The use of the value-adjusted base (as opposed to the actual tax base) means that the index of effort implicitly takes into account differences between States in their ability to raise revenue.

Table 2.2: State and local government taxes, as at 1 November 1997^{ab}

<i>Tax</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Payroll tax	✓	✓	✓	✓	✓	✓	✓	✓
<i>Taxes on land:</i>								
Conveyancing duty	✓	✓	✓	✓	✓	✓	✓	✓
Land tax	✓	✓	✓	✓	✓	✓	✓	✗
Lease duty	✓	✓	✓	✓	✓	✓	✓	✓
Municipal rates	✓	✓	✓	✓	✓	✓	✓	✓
Metropolitan improvement tax	✗	✓	✓	✓	✗	✗	✗	✗
Contribution to fire brigades	✓	✗	✓	✗	✗	✓	✗	✗
<i>Finance taxes:</i>								
Agreements duty	✓	✓	✗	✓	✓	✓	✗	✓
Bank account debits (BAD) tax	✓	✓	✓	✓	✓	✓	✓	✓
Cheque duty	✗	✗	✗	✓	✓	✗	✗	✗
Credit card transaction duty	✗	✗	✓	✗	✗	✓	✗	✗
Debits duty	✗	✗	✗	✗	✗	✓	✗	✗
Discount transactions duty	✗	✗	✓	✗	✗	✗	✗	✗
Electronic banking duty	✗	✗	✗	✗	✗	✗	✗	✓
Financial institutions duty (FID)	✓	✓	✗	✓	✓	✓	✓	✓
Hire purchase arrangements duty	✓	✓	✓	✗	✗	✓	✓	✗
Hiring arrangements duty	✓	✓	✓	✓	✓	✓	✓	✓
Loan security duty	✓	✓	✓	✓	✓	✓	✗	✗
Loans duty	✗	✗	✓	✗	✗	✓	✗	✗
Marketable securities duty	✓	✓	✓	✓	✓	✓	✓	✓
<i>Franchise fees:</i>								
Electricity franchise fees	✓	✓	✗	✗	c	✓	✗	✗
Gas franchise fees	✓	✗	✗	✗	✓	✗	✓	✗
Liquor franchise fees	✓	✓	✓	✓	✓	✓	✓	✓
Petroleum franchise fees	✓	✓	✗	✓	✓	✓	✓	✓
Tobacco franchise fees	✓	✓	✓	✓	✓	✓	✓	✓
Alcohol levy	✗	✓	✗	✗	✗	✗	✗	✓
Better roads levy	✗	✓	✗	✗	✗	✗	✗	✗

Table 2.2: State and local government taxes, as at 1 November 1997
(cont ...) ^{ab}

<i>Tax</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
<i>Taxes on motor vehicles:</i>								
Motor vehicle registration fee	✓	✓	✓	✓	✓	✓	✓	✓
Motor vehicle tax	✓	✓	✓	✓	✓	✓	✓	✓
Stamp duty vehicle registrations	✓	✓	✓	✓	✓	✓	✓	✓
Drivers licences	✓	✓	✓	✓	✓	✓	✓	✓
Drivers licence test fee	✓	✓	✓	✓	✓	✓	✓	✓
<i>Gambling taxes:</i>								
Bookmaker's turnover tax	✓	✓	✓	✓	✓	✓	✓	✓
Casino tax	✓	✓	✓	✓	✓	✓	✓	✓
Keno tax	✓	✓	✓	✗	✓	✓	✗	✗
Lotteries tax	✓	✓	✓	✓	✓	✓	✓	✓
Poker machine tax	✓	✓	✓	✗	✓	✓	✓	✓
Racing taxes	✓	✓	✓	✓	✓	✓	✓	✓
Other gambling taxes	✓	✓	✓	✓	✓	✓	✓	✓
<i>Taxes on insurance:</i>								
Health insurance levy	✓	✗	✗	✗	✗	✗	✓	✗
Insurance duty	✓	✓	✓	✓	✓	✓	✓	✓
Third party insurance surcharge	✓	✓	✗	✗	✓	✓	✗	✗
<i>Other:</i>								
Accommodation duty	✓	✗	✗	✗	✗	✗	✗	✗
Gold mining levy	✗	✗	✗	✓	✗	✗	✗	✗
Parking space levy	✓	✗	✗	✗	✗	✗	✗	✗
Tourism marketing levy	✗	✗	✗	✗	✗	✗	✗	✓
Total number of taxes	35	33	30	27	30	34	26	27

✓: tax levied in that State. ✗: tax not levied in that State.

a Taxes levied in their own right or effectively levied through another tax.

b Indicative listing only as other minor taxes may exist. Tax names may also vary between States.

c Abolished in respect of new sales of electricity after 1 July 1997.

Sources: NSW Treasury (1997, pp. 6–33) and ABS 5506.0.

Table 2.3: Revenue from State and local government taxes, by broad tax grouping, 1995–96 (\$ million)

<i>Broad tax grouping</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>	<i>Australia</i>
Payroll tax	2 846	1 994	854	624	476	142	102	66	7 103
Taxes on land	3 679	2 591	1 787	964	697	226	163	55	10 163
Financial taxes	1 180	817	259	266	184	51	38	21	2 815
Franchise fees	1 737	1 487	632	575	470	164	81	102	5 249
Motor vehicle taxes	1 260	826	691	280	243	85	65	26	3 476
Gambling taxes	1 178	1 051	520	189	232	55	52	23	3 300
Taxes on insurance	769	485	172	119	139	29	15	6	1 734
All other taxes	40	379	24	62	29	8	3	3	549
Total State & local taxes	12 689	9 630	4 939	3 079	2 470	760	519	302	34 389
Total as a share of GSP/GDP	7%	8%	6%	6%	7%	7%	5%	6%	7%

Sources: ABS 5506.0 and Grants Commission (1997a, personal communication).

Table 2.4: Per capita revenue from State and local government taxes, by broad tax grouping, 1995–96
(\$ per person)^a

<i>Broad tax grouping</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>	<i>Australia</i>
Payroll tax	459	437	256	353	323	299	331	363	388
Taxes on land	593	568	535	546	473	477	528	302	555
Financial taxes	190	179	78	151	125	107	124	117	154
Franchise fees	280	326	189	326	319	346	263	559	287
Motor vehicle taxes	203	181	207	159	165	179	211	143	190
Gambling taxes	190	230	156	107	157	116	169	126	180
Taxes on insurance	124	106	52	67	94	61	49	33	95
All other taxes	6	83	7	35	20	17	10	18	30
Total State & local taxes	2 045	2 112	1 479	1 744	1 675	1 602	1 684	1 661	1 878

a Total revenue divided by estimated resident population as at 30 June 1996.

Sources: ABS 3201.0, 5506.0 and Grants Commission (1997a, personal communication).

3 A FRAMEWORK FOR ASSESSING STATE TAXES

State taxes exist for a variety of reasons — some economic, others social or political. Yet all taxes impact, to differing degrees, on economic behaviour. This chapter discusses the key economic criteria used in this paper to assess State taxes — efficiency, equity, administration and compliance, and the stability of the tax base.

Taxes raise the revenue that State governments need to provide services, such as hospitals, schools, roads, public transport, and law and order. This paper does not question the need for tax revenue, nor assess how it might be spent. The focus is on how the States can best raise tax revenue according to the chosen criteria, while maintaining their current level of aggregate tax revenue.

This chapter describes the chosen criteria in general terms, outlining how they can be used to assess State taxes. Chapters 6 to 9 apply the criteria to the four broad categories of State taxes covered in this paper. The chapters assess each tax category in isolation. However, achieving State tax reform within a revenue constraint means reducing dependence on less desirable tax categories, and increasing dependence on others — that is, it involves changes in the tax mix. Chapter 4 draws the analysis together by comparing the individual assessments of the different tax categories, while Chapter 5 indicates broad directions for reform, including possible changes in the tax mix.

3.1 Efficiency

The efficiency criterion assesses the degree to which a tax changes community well-being by reallocating resources. If resources are diverted into activities (including evasion or enforcement) that are less highly valued from a national perspective, then the community will be worse off. The less a tax induces changes in behaviour, the more efficient it is likely to be. Occasionally, a tax may improve resource allocation, and the community may be better off — for example, if a tax discourages activities that produce adverse external effects on others, such as pollution or congestion, that are not taken into account by individual producers or consumers.

The extent of any efficiency loss will depend on what is being taxed, how the tax actually operates and the scope for avoiding the tax. In general, the loss will be bigger:

- the more sensitive demand is to price changes;
- the more sensitive supply is to price changes;
- the easier it is to relocate the transaction being taxed to a lower taxing jurisdiction; and
- the higher is the tax rate.

It is possible to minimise the efficiency loss by designing a tax system around these general principles.

In keeping with these principles, taxes levied on commodities that have close substitutes exempt from taxation are likely to create relatively high efficiency losses. The greater the substitutability between a taxed and non-taxed item, the easier the tax is to avoid by diverting resources and the greater the distortion that results from resources shifting out of their preferred, or most valued, use. Areas of State taxation where fairly close substitutes are treated differently include the *bank account debits tax* (BAD). This applies only to withdrawals from bank accounts with cheque drawing facilities, but not to withdrawals from savings accounts, credit cards or other financial accounts. This provides incentives for users to switch to less-preferred accounts just to avoid tax. On the other hand, alcohol, tobacco and petroleum products have long been favoured subjects for taxation, because there are few close substitutes towards which users can switch.

Efficiency losses, where they occur, generally increase with the rate of taxation. A tax levied at a high statutory rate will usually generate a bigger efficiency loss than will the same tax levied at a lower rate, and the efficiency loss increases more than proportionately with the tax rate.

It is more desirable from an efficiency viewpoint to tax commodities or transactions that are relatively immobile (ie. the point of sale cannot easily be shifted). Share market transactions are highly mobile subjects of State taxation. On the other hand, taxes on land are often advocated on the grounds that land is in fixed supply and is essentially immobile. However, Australian *land taxes* do not cover all forms of land use, so while the land itself may be immobile, the use to which it is put can be varied. Therefore, in practice *land taxes* may be less efficient than the general argument suggests.

In a federation such as Australia, the mobility of the tax base raises additional issues. What may be a relatively inefficient way for a single State to raise revenue may yet be the most efficient way for all States to raise revenue, were they to do so in a coordinated fashion. This is likely to be the case for tax bases (such as labour income) that are mobile between States, but much less so internationally. Interstate tax competition is generally viewed as improving

efficiency by eliminating or reducing taxes on mobile bases that would otherwise be expected to produce a high efficiency loss. But where the tax base is mobile between States, but not so internationally, a uniform national tax may raise more revenue more efficiently than would occur under tax competition. Thus, where States use bases that are mobile between States but not so internationally, minimising efficiency losses will depend on the willingness of States to harmonise or standardise their tax systems. These issues are discussed in more detail in Appendix A.

The structure of a tax may influence its efficiency. For example, tax-free thresholds may deter taxpayers from expanding or provide them with incentives to split up their affairs. Exemptions may artificially favour tax-exempt activities or encourage potential taxpayers to devote resources into lobbying State governments in the hope of receiving an exemption. Taxes with more than one tax rate may also cause taxpayers to alter their behaviour. Clawback schemes that gradually reclaim the tax revenue forgone on the tax-free threshold and caps on the maximum amount of tax payable may generate additional efficiency losses.

These sources of efficiency loss suggest that, for a tax on a particular commodity or service, a broader tax base is generally more efficient than a narrower one, and a uniform rate of taxation is generally more efficient than differential rates.

There has been, and continues to be, considerable debate as to whether these principles imply that the best tax structure would involve a uniform tax on all goods and services. Harberger (1990) shows that there is a presumption in favour of including more goods and services in the tax net, unless the administration and compliance costs of doing so are high, and/or it involves moving one commodity into the taxed group, while leaving important close substitutes untaxed.

However, the literature on optimal taxation also demonstrates that a *uniform* tax rate across *different* goods and services is generally less efficient than a non-uniform rate structure — one where the rate of taxation varies with the responsiveness of demand to changes in price. This suggests that goods whose consumption is relatively unresponsive to changes in price — such as alcohol, tobacco and petroleum products — should be taxed more heavily than other goods.¹ In practice, however, informational uncertainties about the price responsiveness of individual goods, or types of goods, coupled with

¹ It is also desirable to tax these goods more heavily because there are external effects associated with their consumption, such as pollution or health costs, that are not otherwise reflected in their price.

administration and compliance costs of multiple rate structures, make this a prescription to be used judiciously.

The presence of other taxes and other distortions elsewhere in the economy generates additional efficiency effects that should be taken into account in assessing the efficiency of a given tax. For instance, a tax increase may change the demand for other goods not directly subject to the tax increase (eg. inputs to the good subject to the tax increase). If these other goods are also taxed, the change in demand will affect the amount of revenue raised relative to the pre-existing loss in efficiency. The demand for substitute goods will increase following a tax increase, generating additional tax revenue and improving economic efficiency. This efficiency improvement should be taken into account when assessing the efficiency loss in the original market.² Conversely, the demand for complementary goods will decline, reducing tax revenue and increasing the pre-existing efficiency loss per unit of revenue raised.

It is difficult to take account empirically of distortions elsewhere without using general equilibrium models. Such models have been used to assess the efficiency of various State taxes (Access Economics 1995, Han 1996). While these models can pick up distortions elsewhere, they require reasonably detailed extensions to capture the efficiency implications of the exemptions, rebates and multiple tax rates in existing State tax structures. Such features arguably are more important determinants of the efficiency of State taxes than are distortions elsewhere. As a result, the quantitative analyses in this paper focuses primarily on the market in which the tax is levied (a so-called partial equilibrium analysis). However, the qualitative analysis considers potential general equilibrium effects. A more detailed quantitative general equilibrium assessment remains an area for further research.³

Nevertheless, one pre-existing distortion is taken into account in the analysis. Existing Commonwealth taxes exacerbate the impact of some State taxes, so are taken into account in the efficiency analysis (Appendix B).

The theoretical and applied tax literature most commonly assumes that there are no external effects associated with the activity being taxed. However, this paper assesses the efficiency loss from *franchise fees* on activities that clearly produce external effects. In light of this, the efficiency implications of these

² If prices change in the market with the pre-existing tax, the size of the efficiency loss will also change and this should, in theory, be taken into account. Generally, this change will tend to be smaller than the change in tax revenue. As a result, some studies ignore the resulting change in efficiency and focus on the revenue effects alone.

³ For a discussion of how the efficiency effects of taxation can be measured in a general equilibrium framework see, for example, Auerbach (1985), Han (1996) and Martin (1997).

external effects are considered explicitly. Appendix B spells out how they are taken into account.

The efficiency loss or gain from a tax can be measured in two ways — the *total* loss or gain in economic well-being caused by the tax, or the *change* in well-being caused by raising an additional dollar of revenue from a tax. The latter is known as a *marginal* efficiency loss measure. To facilitate the development of reform options, this paper measures the *marginal excess burden* of a tax, which is a measure of the marginal efficiency loss (Appendix B). States can improve efficiency by reducing their reliance on taxes with high marginal efficiency costs, and raising their dependence on taxes with low efficiency costs.

With any tax, it is possible to raise a marginal unit of revenue by:

- raising some, or all, of the statutory tax rates;
- relaxing current exemptions (including concessional arrangements, remissions and rebates); and/or
- raising or removing any ceilings on the maximum amount of tax payable.

Since the marginal efficiency cost of taxation typically rises with the rate of taxation, the most efficient way of raising revenue from an existing tax is likely to be by relaxing current exemptions. Consequently, this study evaluates separately the marginal efficiency cost of each tax for those taxed at the various statutory rates and those currently exempt from the tax.⁴

3.2 Equity

Equity is concerned with the fairness or otherwise of a tax. Its importance as a criterion for assessing taxes arises from social justice concerns about sharing the burden of taxation fairly between individuals who have differing abilities to pay. The literature on tax assignment in a federation does not suggest a major role for the States in trying to redistribute income through their tax systems (Appendix A). This can be achieved most efficiently by the Commonwealth. Nevertheless, it is desirable that State tax systems not contribute to inequities.

A tax is generally deemed to be fair, if:

- people in similar economic circumstances are treated similarly (horizontal equity); and

⁴ Other studies (eg. Albon 1997a, 1998) evaluate the marginal deadweight loss around the average effective rate of taxation — the ratio of tax revenue actually raised to the tax base, a measure that incorporates the effects of exemptions and rebates. This approach implicitly assumes that the marginal deadweight loss from raising an additional dollar of revenue is the same for all individuals. In most cases, this will not be so.

- the amount of tax paid varies in relation to individuals' economic circumstances (vertical equity).

It is nevertheless possible to draw different conclusions depending on how economic circumstances are defined and measured. For example, similar circumstances can be judged in terms of income, wealth or expenditure on the taxed item.

In general, the more progressive a tax, the greater the degree of vertical equity and, from a vertical equity perspective, the more desirable it is. Thus, taxes with tiered ad valorem rate structures tend to be more progressive than uniform rate structures, at least in terms of the size of the taxable transaction. Similarly, taxes denoted in absolute dollar amounts tend to be more regressive than taxes with a proportional (ad valorem) rate structure.

All other things being equal, broad tax bases tend to be more horizontally equitable than are narrower tax bases, because they tax comparable forms of income or expenditure in a similar fashion.

Tax avoidance and evasion are clearly important sources of inequity within the tax system. Tax evasion involves taxpayers avoiding paying taxes through illegal means. The burden shared by those paying taxes will, therefore, increase. Tax avoidance, however, involves using legal means to minimise the amount of tax payable. Inequities can arise if the ability of otherwise equal taxpayers to rearrange their financial affairs differs (eg. wealthy people can afford to employ tax experts to advise them on how to minimise their tax). In these circumstances, the end result is that taxpayers in similar circumstance pay differing amounts of tax.

3.3 Administration and compliance costs

It is often claimed that taxes should be as simple as possible. With simple taxes, it is often easier and cheaper for taxpayers to pay the correct amount of tax owing (low compliance costs) and for the government to collect the revenue owed (low administration costs). Indeed, as Brennan (1977, p.3) notes:

Simplicity in the tax system is really an aspect of efficiency. Again the notion is to minimise waste in transferring resources from private to public use; but here the focus is not on substitution effects, but rather on the administrative costs faced by revenue-collection agencies and the [compliance] costs faced by taxpayers. For example, the tax system should be such as to minimise the resources used up by taxpayers in avoidance and evasion on the one hand, and by authorities in enforcement procedures on the other.

Simplicity is not always a good proxy for low administration and compliance costs, however. For example, some financial taxes are far from simple, but have low compliance costs, since most of the resources expended on compliance related activity would be incurred if the tax were simpler. Conversely, land taxes are conceptually simple, but very costly to administer. Where possible, it is better to measure administration and compliance costs directly.

Compliance costs

Compliance costs include the monetary and time costs incurred by taxpayers and their advisers in collecting and maintaining tax information, completing tax forms and necessary disclosures (or preparing information for professional advisers to enable them to do this) and dealing with the relevant State government agency collecting the tax (Pope, Fayle and Chen 1993).

From an economic perspective, what matters are those costs that would not have been incurred anyway (called marginal compliance costs). Costs, such as computerised payroll systems, that, in all likelihood, would have been incurred anyway as part of normal management functions, should not be counted as a compliance cost.⁵

The structure and design of taxes can significantly influence compliance costs. The NSW Tax Task Force (1988) identified the major factors determining the overall level of compliance costs as:

- the extent to which records that are required to be kept for taxation purposes are additional to those kept for normal accounting or management purposes;
- the extent to which the required records are system driven — that is, produced automatically through existing computer systems — or are capable of being so produced;
- the complexity of the required calculations although, if the underlying data are readily generated, use of computers will minimise the resulting costs;
- the extent of the costs incurred as a result of the need to purchase externally provided services (eg. legal, accounting and computing services);
- the extent of time-consuming compliance procedures (eg. the over-the-counter stamping of documents);
- lack of clarity in legislation, making for difficult interpretation;

⁵ For a more detailed discussion of measurement difficulties associated with compliance costs, see Pope, Fayle and Chen (1993) and Rimmer and Wilson (1996).

- tax periods inconsistent with normal accounting periods;
- the number of tax collection points (ie. the number of firms or individuals from which a particular tax is collected); and
- for firms operating in more than one State, the absence of interstate harmonisation of tax bases and rates.

Aspects of the tax system may serve functions other than merely collecting revenue (such as alerting the revenue collecting authorities on the existence of other taxable transactions) (NSW Tax Task Force 1988). In such cases, the compliance costs may seem excessive when compared with the amount of revenue collected, but may still be warranted for these other reasons. Some judgement is needed about whether the value of the information obtained warrants higher compliance costs and whether this information could be obtained more cheaply from other sources.

Through thoughtful design, these costs can be minimised.

Administration costs

The flipside of compliance costs is the cost incurred by government in administering the tax and collecting the revenue owed. Administration costs include the cost of:

- designing, maintaining and reviewing the collection system;
- educating taxpayers and issuing rulings;
- where needed, assessing the taxable base;
- processing the returns;
- issuing the assessments;
- collecting the revenue owed;
- where needed, issuing refunds; and
- ensuring that the correct amount of tax revenue is paid (enforcement and debt recovery).

Many of these costs do not vary with the number of taxpayers or the amount of revenue paid. The fixed nature of these costs should give rise to economies of scale in tax collection. The NSW Tax Task Force (1988, p. 88) stated that:

The collection of taxes appears subject to the same forces that govern all acts of production, in that economies of scale operate; that is, the larger the tax base, the lower the unit cost. ... However, since little is known about economies of scale in tax systems, it is uncertain if collection costs could be lowered further by this factor.

Different measures of administration costs are appropriate for different purposes. Total collection costs measure the total cost to the government of collecting a particular tax and, when compared with the total amount of revenue collected, provide an indication as to its overall viability. However, such a measure overstates the cost of collecting an additional dollar of revenue (marginal administration costs). It includes many fixed costs that do not vary with the amount of revenue collected.

Administration costs will clearly be higher where the tax base is not readily identifiable and has to be specially valued for taxation purposes. *Land tax*, for example, is a relatively expensive tax to administer because the tax base — the unimproved capital value of the land — has to be specially valued, as the taxable value does not include the value of any improvements made to the land.

Undue complexity often increases the cost of administering and complying with a tax. Broad-based, uniform taxes tend to be easier and cheaper to administer. They are also harder to evade through substitution. Taxes that are easy to evade will require governments to spend more money on enforcement and debt recovery to maintain the integrity of the tax system.

3.4 Stability of the tax base

Taxes that grow in line with the economy enable governments to fund essential services (such as, law and order, education and public hospitals) as the State grows. The NSW Tax Task Force summarised this by saying:

If tax revenue grows as fast as or faster than the economy of the State, the Government can be assured that it will have the resources to carry out its functions without constantly having to raise tax rates. If the revenue fails to grow apace with the economy, the Government will be under constant pressure to raise tax rates or find new sources of revenue to enable it to carry out its policies. (NSW Tax Task Force 1988, p. 112)

The stability of the tax base is perceived to be politically important and partly explains the present tax mix.

3.5 Conclusion

The assessment of the current mix of State taxes outlined in this paper uses a number of criteria — economic efficiency, equity, administration and compliance, and stability of the tax base. As the focus of this paper is on the mix of State taxes, rather than the level of taxation, these criteria are evaluated in a revenue-neutral context.

The economic efficiency criterion asks whether it is possible, by changing the tax mix, to raise the economic well-being of those members of society benefiting from that change by more than would be required to compensate those made worse off by the change. Measures of efficiency do not assume that the compensation occurs.

The marginal excess burden of a tax is one measure of its efficiency. The marginal excess burden measures the change in efficiency resulting from raising an extra dollar of revenue by increasing the rate of the tax in question. By lowering the rates on taxes with a relatively high marginal excess burden and correspondingly raising the rates on taxes with a relatively low marginal excess burden, an efficiency enhancing revenue-neutral change in the tax mix can be affected.

There are several dimensions to the equity of a tax. A tax is said to be vertically equitable if the amount of tax that is paid increases with income, while it is horizontally equitable if people in the same circumstances (eg. on the same income) pay the same amount of tax. Progressive tax rate structures tend to promote vertical equity, while broad tax bases tend to promote horizontal equity. The States do not have a major role in trying to redistribute income through their tax systems, but it is desirable that their tax structures do not contribute to inequities.

One aspect of efficiency often given separate attention is the resources spent on administering or complying with a tax. To the extent that these costs differ between taxes, the optimal mix need not involve equating marginal excess burdens across all taxes. The desirability of minimising administration and compliance costs underpins the often used criterion of simplicity. But because the relationship is not perfect, this paper measures administration and compliance costs directly wherever possible.

Finally, governments favour taxes that grow in line with the economy. This helps them to continue funding essential services as the economy grows.

When all criteria support a particular change in the tax mix, a strong case for reform exists. When the criteria are in conflict, however, there is no uniquely acceptable trade-off between them. In these situations, judgement must be exercised.

4 AN ASSESSMENT OF STATE TAXES

This chapter assesses the State tax system against the criteria discussed in Chapter 3 — efficiency, equity, low administration and compliance costs, and stability. The main focus is on the four main areas of State taxation — *payroll tax*, *taxes on land*, *taxes on financial transactions* and *franchise fees*. Each tax is evaluated from two perspectives — as it currently operates and how it could, in theory, operate. The chapter draws together the individual assessments made in Chapters 6 through to 9 in order to consider the system as a whole.

4.1 Efficiency

The measure of efficiency used in this paper is the marginal excess burden (MXSB) (Chapter 3 and Appendix B). This measures the efficiency cost of raising an additional dollar of revenue, and helps to indicate directions for reform.

Suppose, for example, that one State tax imposed a particularly high efficiency cost of 60 cents per dollar of revenue raised, while another imposed an efficiency cost of only 2 cents. This would mean that, if only a dollar less revenue were raised from the first tax and a dollar more raised from the second, there would be a net gain to the economy of 58 cents — a large gain to producers and consumers of the first taxed commodity, offset by a small loss to consumers and producers of the second.

As shown later in the chapter, these are realistic orders of magnitude for the range of efficiency cost estimates across different State taxes. With revenues in the order of \$1 billion from some of the State taxes involved, the scope for economy-wide gains from State tax reform is enormous.

Albon (1997a) evaluated the MXSB of combined State and Commonwealth taxation of alcohol, tobacco and petroleum products. His estimates of the MXSB are presented in Table 4.1. The estimates show the efficiency cost of a marginal change in State and Commonwealth taxation combined, and do not attribute the efficiency cost to a particular level of government. The estimated efficiency costs range from as low as 10 cents per dollar of revenue raised for wine, to as high as \$1.31 per dollar of revenue raised for spirits. These

estimates do not take account of possible externalities associated with the use of these commodities.¹

Table 4.1: Summary of Albon's estimates of the efficiency losses from combined State and Commonwealth taxes in the absence of externalities

<i>Commodity</i>	<i>Ad valorem AETR^a</i>	<i>Uncompensated elasticity of demand^b</i>	<i>Marginal excess burden</i>
	Per cent		cents per \$ of revenue
Wine	42	-0.3 to -0.6	10 to 22
Beer	89	-0.25 to -0.73	13 to 52
Spirits	234	-0.81	131
Tobacco	211	-0.40	37
Leaded petrol	130	-0.57	48
Unleaded petrol	120	-0.57	45

a Average effective tax rate.

b The percentage change in demand attributable to a one per cent change in the price of the commodity.

Source: Albon (1997a, p. 275).

The analysis that follows seeks to ascertain the MXSB of State taxation alone, taking the pre-existing Commonwealth taxes as given. It uses the methodology outlined in Appendix B. The data underlying the following calculations are shown in Chapters 6 through to 9. Given the variety of statutory tax rates for each of these taxes across Australia, the MXSBs have been evaluated about a rough weighted average of the relevant statutory tax rates.²

The Australian average statutory rates of State and Commonwealth taxation are shown in Table 4.2. The State tax rates range from as low as 1 per cent on land used for owner-occupied housing, to 100 per cent on tobacco, giving a rough indication of where the efficiency losses are likely to lie. But the efficiency of State taxes is also affected by the presence of Commonwealth taxation. In some cases, relatively low rates of State taxation are levied on bases that attract no additional Commonwealth taxation (eg. land), so the efficiency losses are likely to be very low. In other cases, relatively modest rates of State taxation are

¹ In a subsequent paper, Albon extended his estimates to take account of the health costs associated with tobacco smoking (Albon 1998).

² The average effective tax rates were used for the Commonwealth taxes on liquor and alcohol, as the statutory taxes rates vary between products depending on the alcohol and tobacco content, respectively.

imposed on commodities that attract very high Commonwealth taxation (eg. spirits and petroleum products), so the efficiency losses associated with the State taxes are likely to be much higher than the State tax rates alone would imply.

Table 4.2: Marginal excess burden of State taxation in the presence of Commonwealth taxation without externalities

	<i>Interaction</i> ^a	Statutory tax rates		Compensated elasticity		<i>MXSB</i>
		<i>State</i>	<i>Cmwth</i>	<i>Demand</i>	<i>Supply</i>	
		per cent	per cent			cents per \$ of revenue
<i>Payroll tax:</i>						
max. statutory rate	a	6.25	48.5	-0.70	0.14	12
max. statutory rate	a	6.25	21.5	-0.70	0.14	4
tax-free threshold	a	6.10	48.5	-0.70	0.14	12
tax-free threshold	a	6.10	21.5	-0.70	0.14	4
currently exempt ^b	a	0	48.5	-0.70	0.14	9
currently exempt ^b	a	0	21.5	-0.70	0.14	3
<i>Taxes on land:</i>						
owner-occupiers	na	1.0	0	-0.20	0.10	...
other	na	3.0	0	-0.20	0.10	...
<i>Franchise fees:</i>						
leaded petrol	a	25.0	120.0	-0.63	∞	40
unleaded petrol	a	25.0	112.0	-0.63	∞	39
diesel	a	25.0	112.0	-0.63	∞	39
tobacco	m	100.0	80.0	-0.40	∞	34
normal strength beer	m	11.5	58.0	-0.39	∞	18
low alcohol beer	m	2.0	58.0	-0.39	∞	15
wine	m	11.5	26.0	-0.49	∞	15
spirits	m	11.5	225.3	-0.89	∞	71

a The interaction column refers to the way in which State and Commonwealth taxes interact: m=multiplicative, a=additive. Refer to Appendix B for an explanation of the effect of the different interactions on the procedure for estimating the MXSB.

b Even though the current rate of State taxation is zero, the MXSB is positive because of the presence of Commonwealth taxation.

The efficiency cost of State taxes also depends on the price responsiveness of demand and supply. The preferred estimates of the relevant elasticities of demand and supply are also shown in Table 4.2, where estimates between zero

and one in magnitude indicate relatively low price responsiveness, and estimates between one and infinity indicate high price responsiveness. The estimates are taken from more comprehensive surveys of the literature reported in Chapters 6 through 9.

Irrespective of the elasticities of demand (the usual bone of contention in debates about optimal taxation), a key feature of the estimates is that two of the State tax bases — labour and land — are non-produced and accordingly have relatively low price elasticities of supply. This is a key feature determining the relative efficiency of different State taxes.

However, because the elasticities are derived from Australia-wide rather than State-specific studies, the MXSBs derived from them should be interpreted as showing the efficiency impact of all States and Territories together introducing a marginal change in a given tax rate. They do not show the costs or benefits from a State acting unilaterally. For mobile tax bases, the elasticities faced by a single State acting alone would generally be larger than those for the nation as a whole, so the MXSB calculations would generally provide a lower bound on the efficiency effects of acting alone. However, the relative rankings across different taxes need not remain the same. The impact of unilateral action may be better assessed using a general equilibrium framework. For example, Crowe (1996) uses a general equilibrium framework to show that States may gain by unilaterally broadening their payroll tax base.

In the absence of externalities, the partial equilibrium estimates of the MXSB of the main State taxes derived in this paper are also presented in Table 4.2.

The table excludes financial taxes, for want of the relevant elasticities, but there are strong reasons for believing, as a number of previous Australian studies have found (eg. Campbell et al 1981, PSA 1995, Wallis et al 1997), that financial taxes are a highly inefficient way of raising revenue. Many large financial transactions can be moved between States, if not overseas. The speed with which the Queensland Government's 1995 cuts in *marketable securities duty* were transmitted nationally support such a view. Advances in technology and increasing globalisation heighten the prospect for intra- and international mobility, raising the possibility that certain State tax bases may be eroded even further in the future. Chapter 8 addresses issues relating to State financial taxes in detail.

The MXSBs estimated in this paper for the various commodities subject to *franchise fees* are similar to those of Albon, although marginally lower, reflecting the choice of parameters.³

The current estimate of the effects of *payroll tax*, given the presence of Commonwealth *income tax*, is somewhat lower than the marginal cost of public funds obtained by Findlay and Jones (1982) and Campbell and Bond (1997). Those studies assumed an infinite wage elasticity of labour demand, meaning that the imposition of a tax on labour income would have no impact on the pre-tax wage — employees were assumed to bear the full burden of the tax. Freebairn (1995) notes that this may be appropriate in the case of a tax imposed on a particular individual, but is less likely for a tax imposed on an entire labour market. In the latter circumstance, the demand for labour would be less than perfectly elastic, and employers would bear some of the burden of the tax. The estimates of the marginal excess burden of *payroll tax* obtained here assume a less than perfectly elastic demand, and are reasonably similar to those obtained by Freebairn under a similar assumption. A more detailed reconciliation is given in Chapter 6.

As expected from the comments above, raising additional revenue through *land tax* levied in the presence of *municipal rates* would cause a negligible loss in efficiency.

The estimates indicate that *payroll tax* is also a relatively efficient way of raising revenue. The MXSB is lower for those who are currently exempt (up to 9 cents per dollar of revenue) than it is for taxpayers falling just above the tax-free threshold, or those subject to the maximum statutory tax rate (up to 12 cents).⁴ The MXSB is substantially lower than this when the accompanying rate of Commonwealth *income tax* is less than the top marginal rate. For example, the MXSB of *payroll tax* falls to between 3 and 4 cents in the dollar when the rate of Commonwealth tax is 21.5 per cent. This does not suggest, however, that the States should consider undermining the redistributive effect of Commonwealth income taxation by raising *payroll tax* rates on the low-paid.

Ignoring externalities, the MXSBs associated with *franchise fees* are higher than the estimates for *land tax* and *payroll tax*. The MXSB associated with State taxes on wine and beer, both light and normal strength, are in the order of 15 to

³ The comprehensive coverage of these taxes means that there is little difference between the average effective tax rates on which Albon bases his calculations and the statutory tax rates used here.

⁴ The reason that the MXSB associated with introducing a small tax on those who are currently exempt from *payroll tax* is not zero is that they are already subject to Commonwealth taxation.

18 cents per dollar of revenue raised. The favourable tax treatment given by the States to low alcohol beer is negated by the high rates of Commonwealth tax that apply. The MXSB associated with State taxation of spirits is the highest of any of the taxes considered, with a MXSB of 71 cents per dollar of revenue raised. This arises from the States levying a modest tax on a commodity already subject to extremely high rates of Commonwealth taxation.⁵

Again ignoring externalities, the MXSB associated State taxation of petroleum products is also high — with estimates ranging from 39 to 40 cents per dollar of revenue raised. The differences between fuels arise from differences in the Commonwealth rate of taxation — the rate of *excise duty* for leaded petrol is 8 percentage points higher than that applying to unleaded petrol and diesel.

In the absence of externalities, these estimates suggest that *land tax* and, to a lesser extent, *payroll tax* are relatively efficient State taxes, while those applying to tobacco, petroleum and spirits are relatively inefficient. However, the commodities with high MXSBs are also those associated with high external costs.

The available estimates of the externalities discussed in Chapter 9 suggest that the largest external costs are associated with the usage of petroleum products. The estimated external costs of road transport use lie in the range \$7 billion to \$20 billion per year. The external costs associated with the consumption of alcohol range from \$900 million to \$6 billion, while the estimates for tobacco range from \$500 million to \$800 million per year. It is assumed that there are no externalities relevant for *land tax*, *payroll tax* and the consumption of low alcohol beer.

The total external costs need to be allocated among individual jurisdictions and activities subject to *franchises fees*. Motor vehicle costs were allocated between fuels on the basis of the number of litres of each fuel consumed.⁶ The health costs associated with tobacco and alcohol consumption were split between the States and the Commonwealth on the basis of their spending on hospital services. The various externalities associated with road transport were subjectively allocated between the States and the Commonwealth, depending on where the externality was most likely to occur or who would be most likely to undertake the relevant expenditure. The alcohol externalities were allocated between beverages on the basis of the number of litres of alcohol consumed.

⁵ The estimates abstract from cross-price effects between different types of beverage.

⁶ This approach is more appropriate to allocating costs associated with congestion, road maintenance and accidents, and less suited to allocating the costs of pollution.

The details are given in Chapter 9. The resulting allocations are shown in Table 4.3.

Table 4.3: Marginal excess burden of State taxation in the presence of Commonwealth taxation and externalities, Australia

	Total externality		Effective statutory tax rates ^a		MXSB
	State	Cmwth	State	Cmwth	
	\$ million	\$ million	per cent	per cent	cents per \$ of revenue
<i>Franchise fees:</i>					
leaded petrol	4 044	1 075	-31.2	95.3	6
unleaded petrol	6 769	1 799	-31.3	87.2	4
diesel	3 507	932	-31.6	86.9	4
tobacco	325	175	106.0	71.0	28
normal strength beer	293	158	9.5	54.5	14
low alcohol beer	0	0	3.2	58.0	15
wine	176	95	8.4	28.3	12
spirits	116	63	15.4	217.3	58

a Statutory tax rates, less the ad valorem equivalent of the externality.

When the externalities are taken into account, the MXSBs for most taxes fall substantially (Table 4.3). The taxes fall into three broad groupings. *Petroleum franchise fees* have low MXSBs, ranging from 4 to 6 cents per dollar of revenue collected. The estimates suggest that the rates of State taxation applying to petroleum products are insufficient to cover the external costs allocated here to the State level of government. However, there is still a small marginal excess burden because the State taxes exacerbate the distortions from very high rates of Commonwealth taxation.

Conversely, the MXSBs associated State taxes on spirits and tobacco are still relatively high (58 and 28 cents, respectively, per dollar of revenue raised). The MXSBs associated with the other taxes on alcohol lie between the two (ranging from 12 to 15 cents).

Sensitivity tests indicate the estimate of the MXSB is quite sensitive to the size of the assumed externality. The MXSB of tobacco taxes, for example, would fall to 18 cents if the externality were valued at \$2 billion, or rise to 30 cents if the externality were valued at \$250 million (Table 4.4). The sensitivity tests for most of the other taxes (not shown) support the general conclusion that the MXSB is more sensitive to the size of the externality than to the assumed

elasticity of demand. The obvious exception is spirits, where the MXSB is more sensitive to the elasticity of demand owing to the high Commonwealth tax rates.

Table 4.4: Marginal excess burden of State taxation of tobacco, sensitivity analysis (cents per dollar of revenue)

<i>Size of externality</i>	<i>Elasticity of demand</i>			
	<i>-0.20</i>	<i>-0.40</i>	<i>-0.50</i>	<i>-1.30</i>
\$250m	ne	30	ne	ne
\$500m	14	28	36	79
\$1 000m	ne	25	ne	ne
\$2 000m	ne	18	ne	ne
\$12 000m	ne	-33	ne	ne

Despite using tools of analysis that, in theory, support different tax rates on different commodities, the overall conclusion is that greater uniformity in State tax rates would generally improve economic efficiency, and generate substantial economy-wide gains. The exceptions to greater uniformity generally occur because of externalities, but even where there is a case for raising State tax rates to cover external costs born at the State level, it is not clear that the total burden on taxpayers should not be reduced by lowering Commonwealth tax rates on the same commodities.

The analysis also shows that the current mix does not balance efficiently the interests of businesses that pay *payroll* or *land* tax, with the interests of investors who pay *financial taxes*, or consumers who pay *franchise fees* on beer, spirits and tobacco. The efficient tax bases — land and, to a lesser extent, payrolls — are being inadequately exploited, because of low statutory tax rates, or because of a range of rebates and exemptions.

4.2 Equity

It has been argued that taxes that have explicitly redistributive objectives should be levied by the highest tier of government — the Commonwealth — rather than by State or local tiers (Appendix A). Nevertheless, as all taxes have distributional consequences, the States need to pay attention to the equity effects of the taxes they choose to employ.

On the surface, many State taxes appear to be fair as the rate of taxation increases with the size of the taxable transaction (eg. *land tax*, *conveyancing*

duty and *debts tax*). This appears to be reinforced by the fact that many of the taxable bases constitute important components of wealth (eg. land, financial transactions, labour income). Despite this apparent fairness, all of the State taxes considered in this paper, at least in the way they are implemented, rate poorly on the fairness scale (Chapters 6 through 9). They tend to be regressive or, at best, neutral, both from a horizontal and vertical equity perspective.

The vertical equity effects of the State tax system are summarised in Table 4.5. It draws together the findings of this paper and two earlier reviews of the NSW and Victorian tax systems. The conclusions concerning the equity effects are broadly similar, and consistent with the partial analysis of Pender (1997, p. 120).

The inequities in the State tax system arise from four main sources:

- restrictions limiting the range of taxes the States can levy;
- poor correlation between the item being taxed and the taxpayer's capacity to pay;
- tax bases that are less than comprehensive, so that similar activities are taxed differently; and
- through the way the taxes are implemented.

The overall regressive nature of the State tax system is, in part, a consequence of the limited range of taxes that the States levy. Constitutional restrictions and actions of previous Commonwealth Governments have discouraged the States from levying a tax on the extremely broad bases open to the Commonwealth — consumption and income (Appendix A). Section 92 of the Australian Constitution precludes the States from levying excise (and customs) duties on goods. In theory, the States can tax services, but, at the margin, the distinction between what constitutes a good and a service is blurred. If the States were to pursue a broad-based services tax, it is likely that a High Court challenge would follow. While the provision designed to stop the States levying an income tax was overturned by the High Court in 1957, the States have been deterred from levying their own income taxes through a fear that the Commonwealth would reduce their grants by an offsetting amount. While the States can levy a surcharge on Commonwealth income tax, no State has yet done so. The only other tax the States levy on labour income — *payroll tax* — is not comprehensive. Similarly, the States used to levy an indirect tax on wealth in the form of *estate duties*, but no longer do so.

Table 4.5: Vertical equity effects of selected State taxes^a

<i>State tax</i>	<i>NSW Tax Task Force</i>	<i>VCIRR^b</i>	<i>This paper</i>
Payroll tax	Proportional	Mildly regressive	Unclear, possibly proportional
<i>Taxes on land:</i>			
land tax	Mildly regressive	Mildly regressive	Mildly regressive
municipal rates	na	na	Proportional
conveyancing duty	Mildly regressive	Regressive	Regressive
<i>Taxes on financial transactions:</i>			
FID	nsr	nsr	Essentially proportional
BAD tax	nsr	nsr	Highly regressive
marketable securities duty	nsr	nsr	Essentially proportional
other stamp duties	Regressive	Regressive	Regressive
<i>Franchise fees:</i>			
petrol))	Regressive
tobacco) Mildly regressive) Regressive	Regressive
liquor))	Regressive
<i>Taxes on motor vehicles:</i>			
stamp duties	Regressive	Regressive	Not covered
other	Regressive	Regressive	Not covered
Gambling taxes	Uncertain	Progressive	Not covered

a As currently implemented.

b Victorian Committee of Inquiry into Revenue Raising.

Sources: Fitzgerald (1997) and Chapters 6 through to 9.

Of the State taxes that are levied, *municipal rates* and *land tax* should, in theory, be one of the most equitable forms of taxation, as the base constitutes an important component of the wealth of a taxpayer. However, wealth may not be correlated with their current income and, hence, their ability to pay. As the *land tax* debate in New South Wales in the late 1980s indicated, taxpayers who are asset rich but income poor may have difficulty in meeting their tax obligations without liquidating some of their wealth to cover the tax bill.

Similarly, most other State taxes do not take into account the circumstances of taxpayers and their capacity to pay. The amount of *BAD tax* paid, for example,

merely depends on the value of the transaction and is not necessarily correlated with the wealth or income of the taxpayer. Likewise, *motor vehicle registration fees* and *motor vehicle weight/engine capacity taxes* are, respectively, the same dollar amount for all individuals or the same for all vehicles of a given weight or engine capacity. *Conveyancing duty* is levied on a sliding scale in all States, whereby the amount of tax paid increases with the value of the property. However, it is only incurred when real property is transferred — more affluent taxpayers who do not move will pay no *conveyancing duty*, while the less affluent who move frequently can end up paying a substantial amount in *conveyancing duty*.

The most regressive of the State taxes are the *business franchise fees*. ABS data indicate that those on lower incomes (and presumably those less wealthy) spend a higher proportion of their income on petroleum products, tobacco and liquor and, as a result, pay proportionately more in tax than those on higher incomes (Chapter 9). The share of the inequity arising from State *franchise fees* is much smaller than that caused by the Commonwealth taxes on the same commodities. However, the cascading of State taxes on top of Commonwealth taxes compounds the inequities.

A major source of horizontal inequity with the State tax system stems from the less than comprehensive nature of the tax bases and the inconsistencies in the way similar goods are taxed. In practice, many State taxes have a wide range of exemptions or concessional arrangements. While those applying to pensioners or low income earners may promote a greater degree of vertical equity, the more general exemptions promote horizontal inequity by taxing otherwise similar activities differently. For example, small businesses are exempt from *payroll tax*. Further, payroll tax does not apply to all forms of remuneration. This can give rise to horizontal inequities as those employed by large companies are subject to payroll tax, while those deriving their income from small businesses are not. A broad-based tax, such as a *comprehensive payroll tax* or *comprehensive land tax*, would reduce the amount of horizontal inequity present. The implications for administration costs of widening the tax base are discussed shortly.

An incomplete coverage and implementation can also cause vertical inequities within the tax system. *Land tax*, for example, applies to rental properties (unless they fall under the tax-free threshold), but generally not to owner-occupied housing (the exceptions are in New South Wales for properties worth more than \$1 million, and in Victoria until the recently announced exemption of owner-occupied housing is implemented). As low income earners are less likely to be owner-occupiers, *land tax* is more likely to impact on lower income

earners through higher rents (to the extent that the tax is passed on in this way) than it is on the more affluent who own their own homes.

Taxes with progressive rate structures may be more equitable than proportional taxes. Yet, the way the tax is denominated is also important and can offset the use of progressive rate structures if the tax is specified in fixed dollar amounts. *BAD tax*, for example, has a progressive rate structure where the amount of tax paid increases in an absolute sense with the size of the transaction. However, the tax rates are specified as fixed dollar amounts per transaction (a specific tax) within each of the five tax brackets (see Chapter 8). Within each bracket, the effective tax rate declines as the size of the transaction increases. The overall effect is that those undertaking smaller transactions, who tend to be those on lower incomes, tend to pay more tax than those undertaking larger withdrawals (all other things being equal). The use of ad valorem (percentage) tax rates can overcome the inequities caused by specific tax rates.

State taxes need not have such adverse equity effects. A *comprehensive land tax*, for example, could be far more equitable than *land tax* as currently levied. If it were levied on an ad valorem basis, the tax would be similar to *municipal rates* (ie. proportional). If more than one tax bracket were used, the tax could even be progressive. Adverse equity impacts on low income earners could be addressed through the tax-free threshold or concessional rates of tax.

Likewise, a broad-based *income tax* (on both capital and labour income) would be more equitable than *payroll tax*. A *comprehensive payroll tax* with minimal exemptions would be more horizontally and vertically equitable than the current more narrowly based tax. Similarly, a broad-based ad valorem tax on financial transactions would be far more equitable than *BAD tax*, *cheque duty* and *electronic banking duty*.

In their current form, most State taxes are clearly regressive. Irrespective of whether equity concerns should be pursued through the State tax system, State taxes should not penalise the less affluent, unless there are overwhelming efficiency reasons for doing so (eg. adverse external costs incurred by society). Removing the current inequities could be achieved by changing the mix of State taxes, by broadening the tax bases and abolishing those inequitable taxes that raise relatively little revenue.

4.3 Administration costs

It is difficult to draw firm conclusions about the cost of administering State taxes across Australia, owing to differing institutional arrangements between States and the paucity of published data.

At the most basic level, the cost of administering State taxation represents the running costs of the various revenue raising agencies. Each State has a State tax office, usually a division within the State Treasury, whose primary function is to administer the bulk of the State tax system and recommended possible tax changes. The NSW Office of State Revenue states that its mission is:

To collect all revenue due, to finance services for the people of New South Wales.
(NSW Office of State Revenue 1996)

While these agencies also perform other minor functions, such as providing ministerial advice, most of their running costs will relate, in some shape or form, to the State tax system and, therefore, provide a lower estimate of the overall cost of administering the State tax system.

Collectively, the State tax offices cost \$175 million to run in 1995–96 (Table 4.6). Given that State and local governments raised \$34.3 billion in revenue in 1995–96, this represents an average administration cost of 0.51 per cent or \$5.10 per \$1 000 of revenue raised.

The true cost will be higher than this as the State tax offices are not the only revenue raising agency within each State. The costs of other agencies, including relevant boards and courts, should also be taken into account. Yet, accurately identifying the relevant costs of these agencies is considerably harder, owing to the wider range of functions performed. This is a particular problem for revenue from taxes on liquor, gambling and motor vehicles, where agencies with revenue raising functions typically also undertake probity checks and perform other social functions. As a result, these costs have not been included in the estimates reported here. In addition, the costs incurred by local government in administering municipal rates have not been included, although this is an important source of tax revenue.

Table 4.6: Cost of collecting State taxation, 1995–96

State	Name of State tax office (relevant division or budget program)	Total cost ^a	Per capita cost	Share of revenue
		\$000	\$ per person	\$ per \$000
NSW	Office of State Revenue	52 900	8.5	4.2
Vic.	State Revenue Office	43 000	9.4	4.5
Qld	Office of State Revenue (Taxation)	43 800	13.1	8.9
WA	State Revenue ^b (Taxation Assessment and Collection & Taxation Compliance)	14 700	8.3	4.8
SA	State Taxation Office ^c (Administration and Enforcement of State Taxation Legislation)	12 600	8.6	5.1
Tas.	Treasury and Finance (Taxation Administration and Revenue Collection)	4 500	9.4	5.8
ACT	Office of Financial Management (Revenue Collection)	5 800 ^d	18.9 ^d	11.2 ^d
NT	Northern Territory Treasury (Territory Revenue Management)	2 200	12.3	7.4
Total		175 100	9.6	5.1

a Total recurrent costs, net of depreciation (if applicable). Department-wide administrative overheads allocated between programs based on their relative cost shares. Where the Valuer-General does not directly charge for its services, the cost of valuing the land for *land tax* purposes has also been included. The share of the cost of the Valuer-General allocated to the State tax office (as opposed to local government) is estimated by the amount of revenue from *land tax* relative to *municipal rates*.

b Net of refunds of previous years' taxation revenues and health promotion foundation payment.

c South Australia does not allocate support service costs to various programs. A pro rata share of support service costs has been allocated here to the general revenue and gambling and lottery programs.

d The high administration costs in the ACT partially reflect a wider range of functions performed (including liquor and gaming). Some of these functions are also performed by tax agencies in other States.

Sources: State Budget Papers (various), Annual Reports (various) and ABS 3201.0, 5506.0.

The cost estimates in Table 4.6 suggest that there are economies of scale in tax administration. Per capita administration costs generally fall as population rises, as do administration costs per dollar of revenue. Owing to its large population, New South Wales has among the lowest per capita collection costs and the lowest administration costs as a share of revenue. Recent administrative reforms have contributed to these lower administration costs. The ACT and the Northern Territory, on the other hand, tend to have relatively high

administration costs. Queensland and Tasmania are exceptions to this general rule.

These estimates suggest that many of the costs do not vary with the amount of money raised, though some costs will vary with the number of taxpayers. These latter costs are particularly important for *land tax*, where the cost of valuing the land represents a substantial proportion of the overall administration cost (42 per cent of administration costs in New South Wales in 1995–96). Once the land has been valued, however, additional revenue could be raised at a relatively low cost.

New South Wales is one State for which more detailed information is available. This shows that, of the major State taxes, *land tax* is the most expensive tax to administer (Table 4.7), because of the need for periodic independent valuation. Land tax costs the NSW Government \$39 per \$1 000 of revenue to administer — over five times the ratio for stamp duties. These valuations, however, also provide the tax base on which *municipal rates* collected by local government are levied. If the revenue raised from *municipal rates* were included, the per unit collection costs would fall below those of all other budget programs. However, the administration costs incurred by local government in levying *municipal rates* would then have to be taken into account, and these are likely to be substantial.

Table 4.7: Administration costs, selected taxes, New South Wales, 1996–97^{ab}

<i>Tax</i>	<i>Administration cost^c</i>	<i>Revenue collected</i>	<i>Share of revenue</i>
	\$000	\$000	\$ per \$000
Petroleum & tobacco franchise fees	2 300	1 502 000	1.5
Payroll tax	6 200	3 146 000	2.0
Stamp duties	22 100	3 108 000	7.1
Land tax	24 200	625 000	38.7

a Based on budget program information.

b Estimated actual data.

c Total expenses.

Sources: New South Wales (1997a, pp. 3–13; 1997b, pp. 661, 664, 667 & 670).

As a group, *stamp duties* are the second most expensive category of tax to administer (costing \$7 per \$1 000 of revenue raised). However, the taxes within this group are quite heterogenous — both in terms of the amount of revenue raised and the likely administration costs. There are a small number of very

large stamp duties — *conveyancing duty*, *FID* and *motor vehicle registrations* — which raise just under 75 per cent of revenue from *stamp duties* in 1995–96 (NSW Office of State Revenue 1996, p. 11).⁷

The *stamp duties* program also comprises many smaller taxes that raise relatively small amounts of revenue (eg. *agreements duty*, *cheque duty*, *debits duty*, *electronic banking duty*, *credit card duty*, *loans duty*, *discount transactions duty*, *car parking space levy* and *hiring arrangements duty* and *lease duty*). Many of these taxes are so small that the States do not separately identify them in their budget papers. Instead, they are aggregated and listed under a residual ‘other’ category. The administration costs for these taxes are likely to be relatively higher than for other *stamp duties*, because of economies of scale in tax collection. Economic efficiency would generally be enhanced by less reliance on these forms of tax.⁸ The revenue forgone could be raised more efficiently, more equitably and at a lower cost to taxpayers and the government through alternative taxes.

Payroll tax is the cheapest State tax to administer, along with the former *business franchise fees* on petroleum products and tobacco. All three taxes had administration costs at or below \$2 per \$1 000 of revenue raised, considerably lower than both *stamp duties* and *land tax*. The concentration of payroll tax on a small number of large companies ensures that large amounts of revenue are raised at a relatively low cost to the government. Any broadening of the payroll tax base would incur additional administration and compliance costs that would have to be taken into account. Nevertheless, the current thresholds appear to be too high to be justified on the grounds of administration and compliance costs alone (Chapter 6). Thus, some broadening of the payroll tax base could raise additional revenue relatively efficiently or facilitate an overall reduction in the tax rate, without increasing administration costs significantly in relation to the amount of revenue raised.⁹ There is scope for reducing these already low costs

⁷ The *stamp duty* budget program (program 68.2.1) is responsible for the administration of another significant tax within New South Wales — *BAD tax* (\$319 million in 1995–96).

⁸ The *car parking space levy* arguably may improve economic efficiency to the extent that it discourages the use of private vehicles within the Sydney CBD, thereby reducing congestion and pollution. The efficacy of such a tax should be considered against alternative means of addressing the problem (eg. congestion pricing). However, many of the taxes considered here are unlikely to be justifiable on the grounds of externalities.

⁹ A more appropriate criterion would be to compare the increased administration costs with the efficiency cost savings from being able to reduce tax rates on more inefficient taxes elsewhere. However, the administration cost/revenue tradeoff has been used by Crowe (1996) to justify having the payroll tax thresholds at their current levels.

even further by amending a number of the administrative arrangements associated with payroll tax (Chapter 6).

The low administration costs associated with *business franchise fees* also reflect the small number of taxpayers subject to the tax. As the tax was mostly levied on wholesalers, the number of taxpayers was considerably smaller than if the taxes were levied on retailers. In addition, these *franchise fees* benefited from much clearer definitions than *payroll tax*, thereby lowering both administration and compliance costs. The relatively mobile tax bases and high rates of taxation, however, meant that costs of investigating and enforcement were higher than for most other State taxes. This was particularly a problem for *tobacco franchise fees*, when the tax rates differed substantially between States.

Although it is not possible to get an accurate estimate from published data, the cost of administering *liquor franchise fees* appears to have been higher, probably significantly higher, than for petroleum and tobacco products, reflecting both the additional number of taxpayers (from *liquor licence fees* being levied on retailers) and the existence of additional administrative institutions not needed for other taxes (eg. the Liquor Administration Board and the Licensing Court). However, many of these costs were incurred because of the wider social regulation of alcohol sales, rather than from taxation alone. Despite *liquor franchise fees* being ruled unconstitutional, many of their administration costs will still be incurred by governments under the general licensing provisions.

Taxes with a clearly delineated and measurable tax base will tend to have lower costs than those where the tax bases are not clearly defined or where the taxable value is not easily identifiable. These issues can equally affect both broad and narrow taxes. As a very broad State tax, *FID* runs into real problems defining what is a financial transaction at the margin. The anecdotal evidence suggests that the administration costs of *FID* are relatively high. However, narrow taxes can equally suffer from such problems. *Hiring arrangement duty* applies to certain rentals, but not to others, and the distinction is often blurred. This highlights the importance of having clearly defined and measurable tax bases. The States can reduce long-term administration and compliance costs by better clarifying their tax bases and amending the legislation if necessary.

Administration costs could be further reduced by some consolidation of State taxes. The obvious areas for consolidation are *financial taxes*, *stamp duties* and *gambling taxes*. Currently, there are a number of different taxes on similar economic transactions. These narrow taxes increase administration costs, while giving rise to potentially adverse effects for efficiency, equity and compliance costs. A broader tax replacing these narrow taxes could lower administration

costs, while simultaneously producing efficiency and equity gains and reducing compliance costs.

Greater harmonisation of the State tax bases may increase administration costs in the short run, but can reduce compliance costs significantly and may make administration of the State tax system easier and less costly in the longer term.

Overall, State taxes are generally not particularly expensive to administer, especially when it is considered that many of the costs associated with the most expensive State tax to administer — *land tax* — also cover *municipal rates*. Between them, they raise a substantial amount of revenue. Yet, considerable scope exists for governments to lower the cost of collecting the same amount of revenue. Many of these cost savings are possible through greater cooperation between States in coordinating their taxes (especially definitions of the tax base), redesigning their taxes and simplifying compliance procedures. Many of these cost savings may also produce wider benefits through improvements in efficiency, equity and, in most cases, compliance costs. Government cost savings should not, however, be achieved by merely transferring the costs on to taxpayers without a strong efficiency or equity justification.

4.4 Compliance costs

There has been only limited research into the costs incurred by taxpayers in complying with State tax obligations. Those studies that have been undertaken focus on Commonwealth taxes and consider selected State taxes only in passing (Pope, Fayle and Chen 1993; QCCI 1996). While there is some debate about the accuracy of their estimates (Rimmer and Wilson 1996), they may nevertheless indicate the relativities between taxes.

The primary State tax considered is *payroll tax*. Pope, Fayle and Chen (1993) estimated that the total cost of complying with *payroll tax* in Australia was \$206 million, or 3.6 per cent of the revenue raised, considerably lower than the compliance costs of Commonwealth taxes studied in another paper (Pope 1994). If accurate, this estimate suggests that total compliance costs associated with *payroll tax* may be significantly higher than the Australia-wide administration costs.¹⁰

The Queensland Chamber of Commerce and Industry (QCCI 1996) surveyed 152 member companies on the cost of complying with various government

¹⁰ The total cost of administering *payroll tax* in New South Wales, the state that collected approximately 40 per cent of national *payroll tax* revenue, was expected to be \$8.8 million in 1996–97 (New South Wales 1997b, pp. 664–665).

regulations, including both Commonwealth and State taxation. It asked users to ‘provide best estimates on the impact of regulations as per the following (types of regulation, including taxes) as they affect your business’ (p. 18). It did not provide users with standardised definitions of what constitutes compliance costs. Therefore, its estimates are more likely to measure total rather than marginal compliance costs. When coupled with the inadequate explanation of the methodology used, the results should be treated with some caution.

The QCCI found that *payroll tax* had the highest average compliance costs of all State taxes and was second only to Commonwealth company tax (Table 4.8). It found that Queensland firms spend on average \$4 650 and 43 hours in complying with the tax. This was considerably higher than the other two State taxes considered in the survey — *stamp duties* (\$1 184) and *BAD tax* (\$508). No attempt was made to decompose stamp duties into the individual taxes.

Table 4.8: QCCI survey results of taxation compliance costs, average cost per firm, Queensland

<i>Tax</i>	<i>Jurisdiction</i>	<i>Average compliance costs</i>
Company tax	Commonwealth	\$20 217
Payroll tax	State	\$4 650
Provisional tax	Commonwealth	\$4 513
Sales tax	Commonwealth	\$4 425
Capital gains tax	Commonwealth	\$4 055
Fringe benefits tax	Commonwealth	\$4 041
PAYE tax/group tax	Commonwealth	\$3 659
Superannuation guarantee charge	Commonwealth	\$3 336
Customs & excise tax	Commonwealth	\$1 777
Stamp duty	State	\$1 184
BAD tax	State	\$508

Source: QCCI (1996, p. 4).

These estimates are likely to mask the true state of affairs, however. For example, *payroll tax* imposes significant compliance costs on medium and large business, but does not impact on small businesses. Likewise, *BAD tax* only falls on financial institutions that issue accounts with cheque drawing facilities. *Stamp duties*, however, apply to all businesses, irrespective of their size.

The costs of complying with State taxes are higher:

- where the taxpayers are required to fill out a return (eg. *payroll tax* and *franchise fees*) rather than to pay an assessment (eg. *municipal rates* and *land tax*);
- where payment is more frequent — annual taxes, such as *land tax* and *municipal rates*, have lower compliance costs than those taxes that have to be paid on a monthly basis (eg. *payroll tax* and *franchise fees*);
- where taxpayers are required to modify their record keeping procedures (eg. modify their accounts or computer software) in order to comply with the tax (eg. *land tax*, *marketable securities duty* and *cheque duty*); and
- where the definitions used for tax purposes differ between States or are inconsistent with those used by the Commonwealth (eg. *payroll tax* and *FID*).

Many of these costs can be reduced significantly by modifying the way these taxes operate. Chapters 6 through to 9 identify numerous ways that the compliance costs associated with *payroll tax*, *taxes on land*, *taxes on financial transactions* and *franchise fees* can be reduced. Most relate to reducing interstate differences, reducing the frequency of payment or simplifying the administrative procedures.

Of the taxes not covered in the above studies, the costs of complying with *land tax* and *municipal rates* are likely to be low as, in most cases, compliance consists of little more than paying the assessment sent out by the tax authority.

It is notable, however, that the 1994 Land Tax Amnesty and other measures in New South Wales uncovered unpaid *land tax* revenue equivalent to 6.6 of total *land tax* revenue. This suggests that while the use of assessments may lower administration costs, it does not necessarily discourage evasion. There is little empirical evidence on whether transactions-based taxes are easier to avoid and evade than *property taxes*, though there is some evidence that past loopholes allowed avoidance of substantial amounts of *conveyancing duty*. It is likely that transactions-based taxes generally will be less prone to avoidance and evasion than taxes with unobservable bases, such as Commonwealth income taxes. Nevertheless, avoidance of *franchise fees* has in the past been encouraged by interstate differences in tax rates.

4.5 Stability of the tax base

Governments favour taxes whose base is relatively stable relative to GDP throughout the various stages of the economic cycle and over time. This gives them some surety in funding essential services (such as, law and order, education and public hospitals) as a State grows.

The NSW Tax Task Force ascertained the stability of the tax base using an income elasticity of tax revenue. It econometrically estimated the percentage change in nominal tax revenue in New South Wales from a one per cent change in nominal State income (gross state product or GSP) over the period 1972–73 to 1986–87. It used a separate regression to determine whether the change in nominal tax revenue was due to changes in the price level (as measured by the Sydney consumer price index). Strictly speaking, as its estimates are point, as opposed to arc, elasticities they are only valid for small changes in GSP. While its econometric methods are questionable, especially in light of recent developments in econometric theory, the estimates are reported here, but should be treated cautiously.

The results suggest that revenue from most State taxes increases at a slightly faster rate than gross state product (GSP) and the CPI over the long term (Table 4.9). *Conveyancing duty* and *total stamp duties* increase at a faster rate than do the other State taxes. The revenue from *gambling taxes*, *land tax* and *payroll tax* increases at a slightly faster rate than the level of activity. Only revenue from *liquor* and *tobacco franchise fees* increases more slowly than GSP. Cumulatively, the revenue from all State taxes grows at a slightly faster rate than overall activity.

These long-term trends mask short-term variations. *Land tax* and *conveyancing duty* are the State taxes least correlated with economic activity in the short run. In addition to *liquor* and *tobacco franchise fees*, *payroll tax* was found to be less sensitive to changes in activity in the short run. The NSW Tax Task Force explained this result as follows:

With the tax bases held constant, payroll tax should rise relative to income as taxpayers enter at the bottom end and as established taxpayers move into the [then] supplementary tax net. However, the policy of regularly increasing the size of the small business exemption had the effect of indexing the base and cutting off one of the sources of growth in the tax revenue. (NSW Tax Task Force 1988, p.117)

Table 4.9: Stability of State taxes, New South Wales, 1977–78 to 1986–87^a

<i>State tax</i>	<i>GSP per capita</i>	<i>Sydney CPI</i>
Conveyancing duty	1.48	1.58
Total stamp duties	1.36	1.47
Gambling taxes	1.14	1.37
Land tax	1.12	1.23
Payroll tax	1.06	1.17
Liquor franchise fees	0.81	0.87
Tobacco franchise fees	0.65	0.71
Total taxes	1.09	1.19

a The elasticity of tax revenue with respect to gross state product (GSP) and the Sydney CPI.

Source: NSW Tax Task Force (1988, p. 114).

The total revenue from State taxation is more variable in the short term, especially in real terms. Yet, it exhibits less volatility than do the individual taxes (NSW Tax Task Force 1988, p. 116).

Overall, the State tax bases appear to be relatively stable, although prone to short-term fluctuations. Such variations may cause the States some financial difficulties if they do not make adequate provisions during the periods of above average growth. Given the datedness of the study, additional research is needed to see if these conclusions still hold.

4.6 Summary

An overall assessment of the main State taxes is given in Table 4.10. It rates the taxes against the four main criteria outlined in Chapter 3 — efficiency, equity, stability, administration and compliance costs — as well as giving separate assessments for ease of avoidance and evasion. The assessments draw on the results of this chapter and the material in Chapters 6 through 9.

No one tax performs well against all of the criteria.

Overall, *municipal rates* and *payroll tax* rate well against four of the five criteria, but poorly against administration or compliance costs. *Land tax*, as currently implemented, rates poorly against both administration costs and equity, but could be easily modified to perform well on equity. These taxes are relatively efficient, equitable and stable. Despite having high compliance costs,

Table 4.10: Assessment of main State taxes^a

<i>Tax</i>	<i>Efficiency</i>	<i>Equity</i>	<i>Admin. costs</i>	<i>Comp. costs</i>	<i>Stability</i>	<i>Avoidance^b</i>	<i>Evasion^c</i>
Payroll tax	*_**	**	*	***	*	**	**
Land tax	*	***	***	*	*	*	*
Municipal rates	*	**	***	*	ne	*	*
Conveyancing duty	**_***	****	**	*	*	**	**
FID	*****	**	**	**_***	*	*	**
BAD tax	*****	*****	**	**	*	***	*
Marketable Securities Duty	*****	***	**	**	*	**	**
Loan Securities Duty	*****	****	**	**	*	**	**
Other stamp duties	*****	****	**	**	*	**	**
<i>Petroleum franchise fees:</i>							
leaded	*	****	*	**	ne	*	*
unleaded	*	****	*	**	ne	*	*
diesel	*	****	*	**	ne	*	*
Tobacco franchise fees	***	****	*	**	**	**	**
<i>Liquor franchise fees:</i>							
normal strength beer	**	****	**	**	**	**	**
low alcohol beer	**	****	**	**	**	**	**
wine	**	***	**	**	**	**	**
spirits	*****	****	**	**	**	**	**

Shaded cells indicate guesstimates.

a As currently implemented.

b Ability to avoid paying the tax through legal means (eg. moving or changing the type of transaction).

c Ability to avoid paying the tax through illegal means, taking into account the ease of detection by the State Revenue Office.

Efficiency (MXSB): * 0–10 cents; ** 10–20 cents; *** 20–30 cents; **** 30–40 cents; ***** 40 cents and over.

Equity: * progressive; * proportional; *** mildly regressive; **** regressive; ***** highly regressive.

Administration and compliance costs: * low; ** medium; *** high.

Stability: * one and over; ** less than one.

Avoidance and evasion: * low; ** modest; *** high.

payroll tax is one of the cheapest state taxes to administer, because of the relatively small number of taxpayers and large amount of revenue raised. *Municipal rates* have low compliance costs, although administration costs are very high because of the cost of valuing the land. Nevertheless additional

revenue could be raised at a low cost. Further, these taxes have broad bases, capable of raising substantial revenue.

At the other end of the spectrum, a number of States taxes — most notably *BAD tax*, most *stamp duties* including *conveyancing duty*, and the *business franchise fee* on spirits — perform poorly against the key equity and efficiency criteria. In addition, a number of *stamp duties* raise only modest amounts of revenue. *Financial taxes* are likely to be particularly inefficient because the tax bases are highly mobile between States and, increasingly, between countries, and many substitute instruments are taxed differently. *FID* rates better than the other *financial taxes* on equity grounds, but is worse against compliance costs.

The remaining State taxes — primarily the *business franchise fees* on beer, wine, tobacco and petroleum products — lie in between, performing better against some criteria than others. These generally perform well on efficiency grounds, though poorly on equity grounds. However, externalities associated with the consumption of these commodities argue for keeping these taxes, despite their inequities.

Despite the potential for conflict between the equity and efficiency criteria, the assessment highlights that, in judging State taxes, these criteria tend to reinforce each other. Efficient State taxes also tend to be equitable State taxes, while inefficient State taxes are generally inequitable. This suggests that the States could raise the same revenue more efficiently and fairly than they currently do.

5 OPTIONS FOR REFORM

A range of reform options has been canvassed in public debate. Indeed, many of these options have been raised in previous reports of the Commission (IC 1991, 1993a, 1993b, PC 1996). This paper does not put forward recommendations. Rather, it considers various reforms that have been advanced against the background of the preceding analysis.

Some of the problems identified in the previous chapter could be addressed by improving the design and implementation of existing taxes. But particularly where the efficiency costs of current taxes are relatively large, significant improvement may require lowering tax rates and recovering the revenue elsewhere — involving a change in the mix of taxes used. Since the inefficient State taxes tend to be the most inequitable, improving the State tax mix could reduce inequities as well as improving efficiency. Further improvements could be achieved by extending the scope of State taxation beyond the bases currently in use. However, this would require the assistance of the Commonwealth, and/or amendments to the Australian Constitution.

5.1 Improving existing State taxes

Some of the deficiencies identified in Chapter 4 could be addressed by general reforms, affecting most State current taxes. Other improvements could be made by measures specific to individual taxes. A number of reforms have been advanced.

General reforms

Taxes indirectly fund many activities where direct charging is a viable option (eg. waste disposal and water). A key advantage of *user charges* over taxes is that the users of the service are provided with important information about the cost of providing the service. In some jurisdictions, for example, water rates are now tied to water consumption, rather than property values, so that ratepayers with large gardens have a stronger incentive to conserve water. Where possible, States and local governments could seek to rely less on taxes to fund services that can be funded through *user charges*. Equity concerns could still be addressed transparently through welfare concessions, in preference to indirect means such as cross-subsidisation.

One of the biggest sources of efficiency loss associated with State taxation arises from the lack of harmonisation in the definitions used between States. These differences increase considerably the cost of doing business across Australia and provide businesses with incentives to rearrange their operations within Australia to take advantage of these differences. If the States were to harmonise their tax bases — that is, to employ standard definitions and thresholds across States — these incentives would be reduced. Just as importantly, harmonisation would lower the cost of businesses complying with State taxes. Businesses would no longer need to keep different records for each State. This would not prevent the States from engaging in tax competition — they could do so by adjusting the rate of taxation and not the definition of the tax bases.

Recent initiatives to harmonise tax bases are encouraging. However, the process could be extended to cover all States and, over time, all taxes. Rather than the States achieving harmonisation by modifying their existing tax Acts, the working groups could develop for the States a common, harmonised piece of template tax legislation. Any interstate differences would then need to be made as explicit amendments to this legislation. In addition, as far as practicable, administrative and compliance arrangements could also be standardised (eg. identical payment periods and using similar forms). The definitions used for State taxes should, as far as is practicable, be consistent with those used by the Commonwealth. This may in turn require some changes to the Commonwealth definitions.

Improvements could be made to those State taxes designed to correct for externalities as well as raising revenue. More research is needed to narrow down the range of estimates of the external costs — as opposed to private costs — associated with petrol, tobacco and alcohol consumption and gambling. The States could usefully review whether taxation is the best way of addressing those externalities that are of State-wide concern. If State-wide taxation is appropriate, there is scope to design taxes that are more closely linked to the externality. Separate *State-based externality taxes* could be identified separately from revenue-raising measures, and tied to the size of State-wide externalities (net of any external benefits). For example, the externality tax on alcohol could be expressed as a specific amount per litre of alcohol consumed. The tax rates on the revenue raising taxes could be reduced accordingly. The constitutionality of State-based externality taxes would need to be tested. And while this paper has focused on actions the States could undertake unilaterally, a review of externalities is probably better done in cooperation with the Commonwealth.

Explicit income redistribution is best achieved by the Commonwealth through progressive income taxation and clearly targeted transfer payments. Nevertheless, the States could ensure that, as far as practicable, the taxes they introduce are not unduly regressive. If the States wish to address equity concerns within their State, then in the absence of a well-developed State transfer system, there could be a role for concessional arrangements built into the tax system. Clear guidelines should be established about who is entitled to these concessional arrangements, similar to the arrangements for disadvantaged groups for *municipal rates*.

As currently implemented, State taxes expressed in fixed dollar amounts tend to be highly inequitable, as the amount of tax paid tends to decrease with the size of the transaction being taxed (eg. *BAD tax*). Wherever possible, State governments could consider expressing such taxes in percentage or ad valorem terms to make them more equitable.

Taxes on financial transactions

State *financial taxes* are both inefficient and inequitable. In addition, many *financial taxes* raise little in the way of revenue. This has led to a number of calls for major overhaul of State taxation of financial transactions (eg. PSA 1995, Campbell et al 1981, and Wallis et al 1997).

Within the current broad tax mix, the States could improve efficiency somewhat by replacing all State *financial taxes* with a single *broad-based financial tax*. Such a *broad-based financial transactions tax* might resemble the existing *FID* — levied on a broad base at a single ad valorem rate — without a cap on the maximum amount payable. The States could levy the new tax either on deposits (as is currently the case with *FID*) or withdrawals. In the long term, the two approaches would be more or less equivalent (with some timing differences in when the revenue is collected).

The base for the new tax could be broadly similar to the base for *FID*. Although loans are currently exempt from *FID*, they could also be brought into the tax base. This would enable the States to abolish *loan security duty* and help ensure that the new tax was neutral between financing options, at least from a householder's perspective. Given the high compliance costs associated with *FID*, the States could consider excluding internal working transactions of financial institutions and other financial instruments with high administration or compliance costs.

This *broad-based financial transactions tax* would be neutral across financial instruments and, hence, would be considerably more efficient and equitable than the current mix of *financial taxes*. It could enable the States to abolish not

only *FID* and *BAD tax*, but also *cheque duty*, *electronic banking duty*, *credit card transactions duty*, *loan (mortgage) security duty*, *loans duty*, *discount transactions duty*, *debits duty*, *agreements duty*, *hiring arrangements duty* and *hire-purchase arrangements duty*.

Transactions in marketable securities are sufficiently different from other financial transactions to warrant a different treatment, owing to their considerably greater mobility — both between States and internationally (Chapter 8). If the available estimates are in any way indicative, the efficiency cost of taxing marketable securities appears to be significantly higher than any of the other States taxes quantified in this report. As a result, it would seem desirable from an efficiency perspective to exclude marketable securities from base for the new tax and to abolish the existing *marketable securities duty*. If the *broad-based financial transactions tax* applied to loans, the efficiency gains from abolishing *marketable securities duty* may be partially offset by some additional efficiency loss from a non-neutral treatment of the financing methods used by firms. The States could raise the revenue forgone from the abolition of *marketable securities duty* more efficiently through the *broad-based financial tax*, within the current broad tax mix.

Payroll tax

A number of amendments to payroll tax have been advanced. The States could reduce the frequency of monthly *payroll tax* payments to reduce the high compliance costs associated with the tax. The States could collect the tax every second month, every quarter or once a year. Business would still be required to pay the same amount of tax, but on a less frequent basis.

Queensland and the Northern Territory could expand their *payroll tax* bases to include employer superannuation contributions. Although substantial additional work would still be needed to standardise the definition of *payroll* among States, such a move would be a major first step. The States could also ensure that their definitions of superannuation were identical to that used by the Commonwealth.

As an interim measure, Western Australia and the Northern Territory could consider simplifying their complicated deduction schemes, by either moving to a single marginal rate scheme (as in New South Wales) or by employing a simpler deduction scheme (as in Queensland). With harmonisation, each State could eventually employ the same *payroll tax* scheme.

Reporting of State taxes

The quality and quantity of information published about State taxes varies between States and over time. Most States publish little information on the

number and distribution of taxpayers and the administrative costs incurred in collecting individual taxes. In addition, a number of States do not separately report in their budget papers (or elsewhere) the revenue collected from many of their smaller taxes. If the States consider that a tax is worth levying, they could, at the very least, report the amount of revenue it raises separately in their budget papers (including the revenue from each individual stamp duty). In addition, the States could work jointly with the Grants Commission and the ABS to improve the statistical information available on the main State taxes (eg. number of taxpayers and distribution).

5.2 Changing the tax mix

Other options have canvassed ways in which the States could further improve the performance of their tax system by changing the way certain taxes operate and by altering the tax mix used to raise revenue. The options in this regard are contingent on actions of the Commonwealth.

Taxes on financial transactions

While the reforms noted above could improve the efficiency of *financial taxes* to some extent, they would remain relatively inefficient, for two main reasons. The first is that in many instances the tax base — the size of the financial transaction — would remain a poor proxy for the underlying service being rendered. Thus *financial transactions taxes* would remain a poor substitute for a *financial services tax* that taxed the service directly.

The other major problem is the cascading of financial transactions taxes along the production chain. In theory, a VAT-style goods and services tax avoids this problem by rebating the taxes on financial services when used as business inputs. In practice, most countries with VAT systems exempt financial services. Furthermore, to date, neither the Commonwealth nor the States have the administrative machinery in place to allow such rebating.

With the recent moves by financial institutions to begin charging for financial services on a fee-for-service basis, there is scope for the States to design a tax on the financial sector that better approximates a tax on the underlying financial service (Chapter 8). Yet, the reality is that if any level of government were to introduce the administrative arrangements for a VAT-type tax, it would be the Commonwealth, rather than the States. Without their own VAT machinery, the States would have no obvious way to prevent the cascading of a *financial services tax*, with the large efficiency cost that cascading imposes. Thus, a better option may be for the States to abolish *financial transactions taxes* altogether, and to raise the forgone revenue another way. With technological

developments such as electronic commerce likely to increase the geographic mobility of financial transactions dramatically, this provides a further reason to consider abolishing these taxes.

Conveyancing duty

Conveyancing duty discourages mobility and is indiscriminate in whom it affects. Although the rate of duty payable increases with the value of the property, *conveyancing duty* is inequitable in that it only applies to those who move, unlike *municipal rates* or *land tax*. When duty is payable, the amount paid is substantial — both in absolute terms and as a proportion of the underlying value of the transaction — implying that it may significantly alter behaviour. Thus, *conveyancing duty* is both inefficient and inequitable. One option would be, therefore, to abolish *conveyancing duty* and raise the revenue forgone through an increase in *land tax*.¹ The States could still levy a nominal charge on property transfers to cover the administrative costs associated with maintaining their registers of land ownership needed for levying *land tax* and *municipal rates*.

Franchise fees

Once plausible estimates of the externalities associated with petroleum products, alcohol and tobacco use are taken into account, the efficiency costs of State taxes on tobacco and spirits appear relatively high. On the other hand, the efficiency costs of State taxes on petroleum products appear relatively low.

Taking Commonwealth excise taxation of these commodities as given, the States could improve overall economic efficiency substantially by lowering their *franchise fees* on tobacco and spirits. However, were the Commonwealth to reduce its own rates of excise on these commodities, the efficiency cost of existing State *franchise fees* would be lower than calculated here, and the case for reducing the rates of State taxation possibly not as strong. But given the high rate State tax on tobacco, in particular, it is unlikely that the case would disappear altogether.

The States could efficiently recover at least some of the revenue forgone by raising the State taxes on petroleum products. Were the Commonwealth to reduce its own excise rates on petroleum products, and the States to continue to use taxation as a method of dealing with the externalities associated with petroleum use, the case for raising State taxes on petroleum products would be

¹ The required increase in the *land tax* rate would be small as *land tax* has a considerably broader base than *conveyancing duty* and is paid annually (or quarterly), rather than on an irregular basis.

strengthened. This is because State taxes do not currently recover all of the external costs born at the State level (at least according to the cost attributions in this paper). Given that the Commonwealth is now levying the tax on the States' behalf, there is a question of which level of government would be held accountable for a tax increase.

Taxes on land

Municipal rates and *land tax* appear to be two of the most efficient taxes levied by State and local governments, owing to their broad bases and inelastic supply. *Municipal rates* are a very efficient tax owing to the breadth of the tax base. The *land tax* base is considerably narrower than that used for *municipal rates* because of exemptions on owner-occupied housing and the presence of tax-free thresholds. Otherwise, the two taxes are essentially identical. Thus, they would be prime candidates to be used to recover some of the revenue lost from the abolition of *financial transactions taxes* and *conveyancing duty*, and from reducing State taxes on tobacco and spirits.

There appears to be considerable scope for the States to place greater reliance on *land tax* as a source of revenue. Extending *land tax* to owner-occupied housing, as New South Wales has recently done, would ensure that home owners and renters were treated more equally. It is clearly inequitable and unfair that home owners, who tend to be more affluent than renters, are exempt from *land tax*. Such a move would improve both the efficiency and fairness of the *land tax*. However, unlike current practice in New South Wales, the value of owner-occupied residential land could be assessed in conjunction with all other land holdings. The grouping provisions could extend to the holdings of all land, with the possible exception of rural land (on administration cost grounds). Thus, each taxpayer would only be entitled to a single tax-free threshold, not two or more.

The broadening of the *land tax* base may cause financial difficulty to low income home owners. If this is the case, the States could consider raising the tax-free threshold. In addition, the States could consider indexing the tax-free threshold to eliminate the effect of bracket creep brought about by increases in nominal property values. The States could continue to offer concessional arrangements to those in genuine need (eg. pensioners).

Many of the recent concerns over *land tax* in New South Wales stem from the substantial appreciation in the underlying land valuations issued by the Valuer-General. Such problems could be overcome by reassessing how valuations are undertaken and, either, introducing some form of smoothing mechanism (eg. rolling average valuations), raising the threshold, indexing the threshold to

property values rather than to the consumer price index, or by lowering the rate of taxation.

Payroll tax

In its current form, *payroll tax* is one of the broadest and appears to be one of the more efficient taxes used by the States. Thus, it is also a candidate to be used to recover revenue forgone by abolishing relatively inefficient taxes.

The efficiency cost estimates suggest that base-broadening measures would be preferable to raising payroll tax rates. Currently, only 8 per cent of all private sector firms pay payroll tax (Chapter 6). The current tax-free thresholds cannot be justified on the grounds that the revenue forgone is fully offset by avoided administration and compliance costs. Some form of threshold may be justified on these grounds, but it would be lower than currently. The efficiency costs estimated in the previous chapter suggest that payroll taxes could even be raised slightly to replace revenue forgone on other taxes, while still allowing an improvement in overall efficiency.

An illustrative overall package

The abolition of *conveyancing duty* would cost the States just over \$3 billion and *financial taxes* a further \$4 billion. This revenue could be recovered, for example, by lowering the *payroll tax* threshold to \$450 000, increasing the rate of *payroll tax* to 8.25 per cent, extending *land tax* to owner-occupied housing, lowering the threshold for *land tax* to \$100 000 and increasing the rate of *land tax* to just below 3 per cent. The required increases would be smaller if greater reliance were also placed on user charges and if new ways of raising revenue were explored. Some possible new tax measures are discussed below.

A rebalancing of State *franchise fees* to improve efficiency could be achieved in a number of ways. For example, the rate of *franchise fees* applying to petroleum products could be increased from 25 to 30 per cent (from 7 to 8 cents per litre) to allow the ad valorem equivalent rate of tax applying to spirits and tobacco to fall to 160 and 30 per cent, respectively. Such a rebalancing would not equate MXSBs, but would move them closer to each other.

5.3 Going beyond current State tax bases

Broadening the State tax base beyond the current set of taxes would in general be preferable to raising rates on existing taxes in order to maintain revenue neutrality. Going beyond the current set of taxes would not only be more efficient, it would generally also be more equitable. The States do have options,

although some would require the cooperation of the Commonwealth or amendments to the Constitution. To the extent that the current inefficiencies arise because State taxes are levied on top of high Commonwealth taxes, the States could improve the efficiency of their tax systems substantially by ‘piggy-backing’ on any Commonwealth base-broadening initiatives.

Taxation of services

Subject to possible Constitutional problems outlined below, the States could seek ways to tax services. All States currently levy taxes on insurance and financial transactions, both key services. New South Wales has made tentative steps to extend the taxation of services by introducing a *parking space levy* and an *accommodation levy*. The difficulty is in avoiding the cascading that is currently a feature of financial transactions taxes. In the absence of VAT-type administrative arrangements at the State level, it may be preferable to extend taxes to services that are predominantly used by consumers rather than business.

Taxation of income and expenditure

Significant base-broadening could be achieved if the States could place greater reliance on income and expenditure taxes.

Section 90 of the Australian Constitution, however, prevents the States from levying excise duties (or any form of indirect expenditure tax on goods) in their own right. It also makes it difficult for the States to tax services, as the practical implementation of the distinction between goods and services is unclear. In short, section 90 severely limits the States’ ability to reform their tax systems. The States could seek to have section 90 amended to exclude *excise duties*. Such an amendment would preclude the States from levying *customs (import) duties*, but allow them to levy their own taxes on expenditure (sales taxes, etc).

Alternatively, the States could negotiate with the Commonwealth to make wider use of arrangements such as those in place for *franchise fees*, whereby the Commonwealth would levy a tax on behalf of the States. The disadvantage is that the tax would have to be at the same rate in every State (though, as with *franchise fees*, the States could make differential rebates). Were the Commonwealth to implement a broadly-based GST, this sharing of administrative arrangements could become more attractive than currently. Not only would the States have potential access to a much broader expenditure base than they do currently, but given the strong economies of scale in tax collection, there would be savings in administration and compliance costs.

Similar arguments would apply to the adoption of a *State-based income tax surcharge*. Such a tax would be superior to *payroll tax* as it would remove the

bias against labour income (*payroll tax* does not apply to capital income). There is no Constitutional restriction on such a surcharge at the moment (Appendix A). It would also improve equity by attaching tax-free thresholds to individuals rather than enterprises.

Expenditure and income taxes tend to be more efficient than many of the taxes currently levied by the States, with *land tax* being a notable exception. If the States were to introduce one or other of these taxes, they could reduce or abolish most of their existing taxes.

6 PAYROLL TAX

Payroll tax is the single most important State tax, generating over \$7 billion in revenue Australia-wide. It is one of the broadest and more efficient State taxes, with a relatively stable base and low administration costs. Yet, there is scope to improve efficiency by broadening the base, lowering the tax rate and streamlining the compliance procedures. Compliance costs of payroll tax are high, but considerable scope exists to lower them through greater harmonisation between States. Current exemptions cost the State governments up to \$3.2 billion, forcing them to rely on higher tax rates and other less efficient taxes. Over time, the base has narrowed as exemptions have become more widespread. The level of thresholds cannot be justified solely on the grounds of minimising administration and compliance costs. The States are increasingly using payroll tax exemptions to attract industries to their State. While the States may (often incorrectly) perceive a gain through this competition, Australia as a whole is likely to lose.

6.1 Overview

How does it operate?

Payroll tax is a levy on the value of certain forms of remuneration paid within a particular State by firms to, or on behalf of, their employees. Although the definition of what constitutes a payroll for tax purposes varies from State to State, it typically includes:

- wages, salaries, commissions, bonuses and allowances paid to employees;
- fringe benefits paid to employees;
- certain contractual payments;
- directors' fees;
- amounts paid to employees on leaving the business for any unused holiday, long service and sick leave;
- over-award payments to employees for workers compensation; and
- employer superannuation contributions.

The main exceptions occur in Queensland and the Northern Territory, where *payroll tax* does not apply to employer superannuation contributions.¹

Not all firms are required to pay *payroll tax*. Exemptions are afforded to:

- small firms, typically employing less than 20 people, whose payroll does not exceed the *tax-free threshold*;
- all firms engaged in particular activities, predominantly non-profit organisations within the social welfare, health, religious and educational fields; and
- individual firms.

This paper uses the term *general exemptions* to describe the first two of these exemptions, as they apply to all firms that meet the requisite criteria — either having a payroll below the *tax-free threshold* or those engaged in the designated activities. To differentiate between the two forms of *general exemptions*, this paper uses the term *small business exemption* and *social welfare exemption*, respectively. It uses the term *specific exemption* to describe exemptions afforded individual firms. The main exemptions to *payroll tax* in each State are also listed in Table 6.21 (located at the end of this chapter).

In certain cases, some States refund the amount of *payroll tax* paid (called a rebate), instead of granting an exemption. Queensland, for example, refunds *payroll tax* paid on the wages of apprentices and traineeships. While achieving the same end, these rebates have the advantage of being more transparent than exemptions, which often go uncoded. This paper uses *exemption* to include these types of rebates, unless otherwise stated.²

All States negotiate *specific exemptions* on a case-by-case basis and often as part of a package of measures designed to attract businesses to a particular State.³ Exemptions can be negotiated by Cabinet, specific Minister(s), selected State government departments, or by the Chief Commissioner of Taxation (or

¹ While the meaning of payroll under the Northern Territory's *Pay-roll Tax Act* is somewhat unclear, the NT Commissioner for Taxes states that his office only levies *payroll tax* on 'the extent that the contribution exceeds the amount required to be made to the superannuation guarantee scheme or an industrial award' (NT Commissioner of Taxes 1997, p.1).

² Rebates are also used to refund any excess tax paid.

³ The NSW Department of State and Regional Development, for example, administers a number of schemes offering a range of incentives, including *payroll tax* rebates, to assist business to locate in New South Wales or to decentralise within the State. Examples include the *Regional Business Development Scheme (RBDS)* and the *Country Industries (Payroll Tax Rebates) Scheme (NSW)*.

equivalent).⁴ The main State government departments that negotiate specific exemptions for *payroll tax* are:

- Asian Relations, Trade and Industry (Northern Territory);
- Business, the Arts, Sport and Tourism (ACT);
- Commerce and Trade (Western Australia);
- Economic Development and Trade (Queensland);
- Manufacturing, Industry, Small Business and Regional Development (South Australia);
- State and Regional Development (New South Wales);
- State Development (Victoria); and
- State Development (Tasmania).

Despite *specific exemptions* being used by all States, little, if any, information is published on the extent of their use — either for individual projects or in aggregate (IC 1996a, Appendix 1).

Section 114 of the Commonwealth Constitution prevent the States from levying payroll or any other tax on the Commonwealth government. Thus, the Commonwealth government is exempt from *payroll tax*. Most States also employ specific provisions exempting the Australian and British Commonwealth Defence Forces, the Australian Commonwealth War Graves Commission, foreign trade representatives and certain other official representatives of foreign countries (mainly consular staff). However, since 1 July 1988, Commonwealth GBEs have been subject to *payroll tax*.

There are currently three types of basic *payroll tax* schemes in operation:

- *single marginal rate schemes*, where a uniform rate of tax is applied to the value of the payroll exceeding the *tax-free threshold*;
- *marginal rates schemes*, similar to a *single marginal rate scheme*, except that the rate of taxation is adjusted with the size of the payroll and only applies to the that portion of the payroll above the tax bracket; and
- *average rates schemes*, similar to a *marginal rates scheme* in that the tax rate varies with the size of the payroll, but the tax rate applies to the entire payroll above the *tax-free threshold* (not the payroll above the tax bracket).

A *single marginal rate scheme* has only one rate of *payroll tax*. The remaining two schemes operate with multiple tax rates that typically increase with the size

⁴ In New South Wales, for example, the Chief Commissioner can grant exemptions to *any* State tax under section 37 of the *Taxation Administration Act 1996* (NSW).

of the payroll. As a firm moves from one tax bracket to another under a *marginal rates scheme*, the new tax rate only applies to that portion of the payroll exceeding the tax bracket (the ‘marginal’ payroll). In addition to this marginal component, the firm is also required to pay a fixed amount representing the cumulative sum of the previous tax brackets. However, under an *average rates scheme*, the new tax rate applies to the entire payroll exceeding the (adjusted) *tax-free threshold*. In practice, these schemes all have *tax-free thresholds* below which no *payroll tax* is payable. The differences between the basic schemes are illustrated in Table 6.1 using a hypothetical example (columns a, b and c).

In addition to the three types of basic schemes, each scheme can also operate as:

- a *non-clawback scheme* (or non-deduction scheme), where the *tax-free threshold* is available to all taxpayers; or
- a *clawback scheme* (or deduction scheme), where the *tax-free threshold* is gradually phased out by adjusting the threshold itself, so that above a certain limit (called the *upper taper limit*), the entire payroll is subject to taxation.

The essential difference between a *clawback* and *non-clawback scheme* lies in who benefits from the *tax-free threshold*. Under a *non-clawback scheme*, all firms are entitled to the *tax-free threshold*, irrespective of the size of their payroll. No attempt is made to reclaim the tax revenue forgone on the threshold. However, under a *clawback scheme*, a *tax-free threshold* only applies to firms with a payroll below the *upper taper limit*. Within a range (between the *general exemption* and the *upper taper limit*), the *tax-free threshold* is adjusted so that the tax revenue forgone is gradually clawed back.⁵ Firms with payrolls above the *upper taper limit* pay tax on their entire payroll (see Box 6.1 for an illustration of how a clawback scheme operates). All other things being equal, a *clawback scheme* will raise more revenue than a *non-clawback scheme*. The differences between non-clawback and clawback schemes are illustrated in Table 6.1 using a hypothetical example (columns a and d).

⁵ The *general exemption* is the tax-free threshold below which no *payroll tax* is payable by any firm. The actual threshold is then reduced for some firms.

Table 6.1: Illustrative example of the differences between payroll tax schemes

		(a)	(b)	(c)	(d)
		<i>Single marginal rate^a</i>	<i>Marginal rates^b</i>	<i>Average rates^c</i>	<i>Single marginal rate with clawback^d</i>
Payroll	(1)	800 000	800 000	800 000	800 000
Tax-free threshold/ general exemption	(2)	500 000	500 000	500 000	500 000
Excess over general exemption	(3)	300 000	300 000	300 000	300 000
Threshold adjustment	(4)=1/3×(3)	na	na	na	100 000
Adjusted tax-free threshold	(5)=(2)-(4)	500 000	500 000	500 000	400 000
Total taxable payroll	(6)=(1)-(5)	300 000	300 000	300 000	400 000
Tax rate	(7)	5%	6%	6%	5%
Relevant tax bracket	(8)	na	750 000	na	na
Amount taxable at that rate	(9)=(6) or (1)-(8)	300 000	50 000	300 000	400 000
Payroll tax payable:					
– ‘marginal’ component	(10)=(7)×(9)	15 000	3 000	30 000	20 000
– fixed component	(11)	na	12 500	na	na
Total payroll tax payable	(12)=(10)+(11)	15 000	15 500	30 000	20 000
Effective tax rate	(13)=(12)/(1)	1.88%	1.94%	3.75%	2.50%
a Single marginal tax scheme:	Tax rates: \$0 to \$500 000, nil; Over \$500 000, 5%.				
b Marginal tax rates scheme:	Tax rates: \$0 to \$500 000, nil; \$500 000 to \$750 000, 5%; Over \$750 000, \$12 500 plus 6% of excess.				
c Average tax rates scheme:	Tax rates: \$0 to \$500 000, nil; \$500 000 to \$750 000, 5%; Over \$750 000, 6%.				
d Single marginal tax scheme rate with clawback:	Tax rates: \$0 to \$500 000, nil; Over \$500 000, 5 % with a \$1 for \$3 clawback up to \$2 million.				

In practice, Western Australia is the only State to operate a *marginal rates scheme*, while the Northern Territory is the only State to operate an *average rates scheme* (Table 6.2). The remaining States all operate *single marginal rate schemes*. Queensland, Western Australia and the Northern Territory also operate *clawback schemes*. Thus, taxpayers in Western Australia and the

Northern Territory not only have to contend with multiple tax rates, but also with adjustments being made to their *tax-free thresholds*.

An overview of the *payroll tax* arrangements operating in each State is provided in Table 6.2. A more detailed summary of *payroll tax* arrangements is contained at the end of this chapter in Table 6.21.

Table 6.2: Payroll tax arrangements, as at 1 January 1998

State	Payroll tax scheme	Tax-free threshold	Maximum marginal rate
		\$	Per cent
New South Wales	Single marginal rate	600 000	6.85 ^a
Victoria	Single marginal rate	515 000	6.25
Queensland	Single marginal rate (with clawback)	850 000 ^b	5.00
Western Australia	Marginal rates (with clawback)	675 000	5.56
South Australia	Single marginal rate	456 000	6.00
Tasmania	Single marginal rate ^c	600 000	6.60 ^d
Australian Capital Territory	Single marginal rate	800 000 ^e	6.85
Northern Territory	Average rates (with clawback)	520 000	7.00

a As from 1 July 1999, the marginal rate will be reduced to 6.7 per cent.

b The tax-free threshold increased from \$800 000 on 1 January 1998.

c Replaced the previous *clawback scheme* from 1 July 1997.

d As from 1 July 1998, the marginal rate will be cut to 6.35 per cent (conditional on passage of legislation).

e The tax-free threshold increased from \$700 000 on 1 January 1998.

Sources: NSW Treasury (1998, p. 9) and State Budget Papers (various).

In most States, the highest tax rate applies to the largest payrolls. However, under *marginal rates schemes*, this need not and, in the case of Western Australia, does not occur. The highest tax rate in Western Australia applies to payrolls between \$5 and \$5.625 million. To avoid ambiguity, this paper uses the term *maximum statutory rate* to describe the rate of tax applying to the largest payrolls.

The *tax-free threshold* is adjusted in a number of instances to eliminate some of the anomalies that arise in practice. This is explained in Box 6.2.

Once a firm's payroll exceeds the *tax-free threshold*, it must register with the State tax office (the State Treasury). Upon registration, the firm will be told whether it is required to pay the tax on a monthly or annual basis, depending on the size of its payroll.

Box 6.1: Payroll tax clawback schemes

Queensland, Western Australia and the Northern Territory operate *clawback schemes* — *payroll tax* schemes that gradually eliminate the *tax-free threshold*, so that above a certain level, called the *upper taper limit*, tax is payable on the entire payroll. All other States operate *single marginal tax rate schemes*, where the *tax-free threshold* is available to all firms, irrespective of the size of their payroll.

To illustrate how a *clawback* scheme works, consider the Queensland scheme, which is simpler than those operated by Western Australia and the Northern Territory. Firms with annual payrolls below the *general exemption* level of \$850 000 do not pay *payroll tax*. For firms with payrolls above the *upper taper limit* of \$3.4 million, the entire payroll is subject to *payroll tax* at a rate of 5 per cent.⁶ For firms with payrolls between \$850 000 and \$3.4 million, the *tax-free threshold* is reduced by \$1 for every \$3 over \$850 000 and reaches nil at \$3.4 million.

The *adjusted tax-free threshold*, sometimes called the *prescribed amount* or *allowable deduction*, for these firms is calculated as: $\$850\,000 - \frac{1}{3} \times (\text{Payroll} - \$850\,000)$.

By this formula, a firm with an annual payroll of \$2.05 million would have a *tax-free threshold* of \$450 000 per year. The firm would then pay *payroll tax* at a rate of 5 per cent on the remaining \$1.6 million (equal to \$80 000). Adjustments are made to this process if the firm is a member of a group, operates for a fraction of the financial year or operates interstate (Box 6.2).

Western Australia and the Northern Territory have the added complication of having multiple and average tax rates, respectively. The clawback adjustment in Western Australia is also \$1 for every \$3 over the *tax-free threshold* (in this case \$675 000), while the Northern Territory has a higher clawback rate of \$2 for every \$3 over its *tax-free threshold* of \$520 000.

Sources: Queensland Office of State Revenue (1997a, 1997b, 1997e), WA State Revenue Department (1997a, 1997b, 1997c) and NT Treasury (1995).

⁶ This example is based on the assumption that the firm operates under the post-1 January 1998 arrangements for an entire financial year.

Box 6.2: Adjustments to the payroll tax-free threshold

In addition to any adjustment made to the *tax-free threshold* as part of a *clawback scheme*, the size of the *tax-free threshold* will be reduced if the firm paying *payroll tax*:

- operates in more than one State;
- forms part of a group of firms; and
- operates for less than a financial year.

These adjustments are designed to reduce any anomalies arising from different businesses structures.

As each State offers a *tax-free threshold*, firms might seek to reduce the total amount of *payroll tax* they pay by spreading their operations across States. To overcome this, each State reduces the *tax-free threshold* (after any clawback adjustments) to a firm to take account of wages paid interstate. The *tax-free threshold* is scaled down by the share of their Australian payroll accounted for in the State in question. Thus, if one-third of their Australian payroll is paid in the State in question, the firm or group is entitled to one-third of the *tax-free threshold*. For those States operating *marginal or average rates schemes*, Australian wages are used to determine the tax rate instead of the wages in the State in question.

The *tax-free threshold* applies to related groups of firms, not to individual companies. Otherwise, there would be an incentive for large firms to split up their operations into a number of smaller companies to reduce the amount of *payroll tax* payable. The grouping provisions overcome this by adding together the payrolls of companies linked by common ownership or control (to the extent of 50 per cent or more), or that share employees. *Payroll tax* is then levied on the group's Australian payroll. The *tax-free threshold* of the group is calculated on the basis of the group's Australian wages, but, for Western Australia, the tax rate is calculated on the basis of the group's wages paid within Western Australia. If a member of the group does not pay *any* wages within Western Australia, their wages are excluded in calculating the tax rate. One company within the group, the *designated group employer*, usually the member that pays the most wages, is responsible for providing information to the State tax office and is the only member of the group entitled to the group's *tax-free threshold*.

Sources: NSW Office of State Revenue (1996b), Queensland Office of State Revenue (1997a, 1997b, 1997c, 1997d), WA State Revenue Department (1997a, 1997b, 1997c) and NT Treasury (1995).

In most cases, firms or groups are required to self assess the amount of *payroll tax* they are liable to pay, either using actual or expected wages. The firm (or group of firms) is required to lodge a return within seven days after the completion of the assessment period, usually after the end of each month, on a form sent to them by the State tax office. The firm must send the return to the State tax office, together with the tax payable. At the completion of the financial year, either the State tax office reconciles the monthly returns with the firm's annual obligations (eg. Queensland), or the firm does (eg. New South Wales). If firms have underpaid the amount of *payroll tax* owing, they are required to pay the difference. Conversely, any over-payment will be refunded.

If an employer fails to register for *payroll tax* when liable, pays tax after the due date, or fails to lodge a return, penalties apply. In the first instance, interest is payable on the amount outstanding, often at graduated rates depending on the length of time that has elapsed, in addition to the tax itself. In extreme cases, offenders may be sent to prison.

Companies can deduct their payments of *payroll tax* for Commonwealth company tax purposes. This deductibility reduces the net cost of *payroll tax* to employers and effectively represents a transfer from Commonwealth taxpayers to the company.⁷

History

Although now a State tax, *payroll tax* was initially introduced by the Commonwealth in 1941 partly to fund child endowment. It was transferred to the States in September 1971 to give them access to a growth tax to overcome the somewhat static nature of their existing tax bases. This transfer was matched by an offsetting reduction in Commonwealth grants to the States.

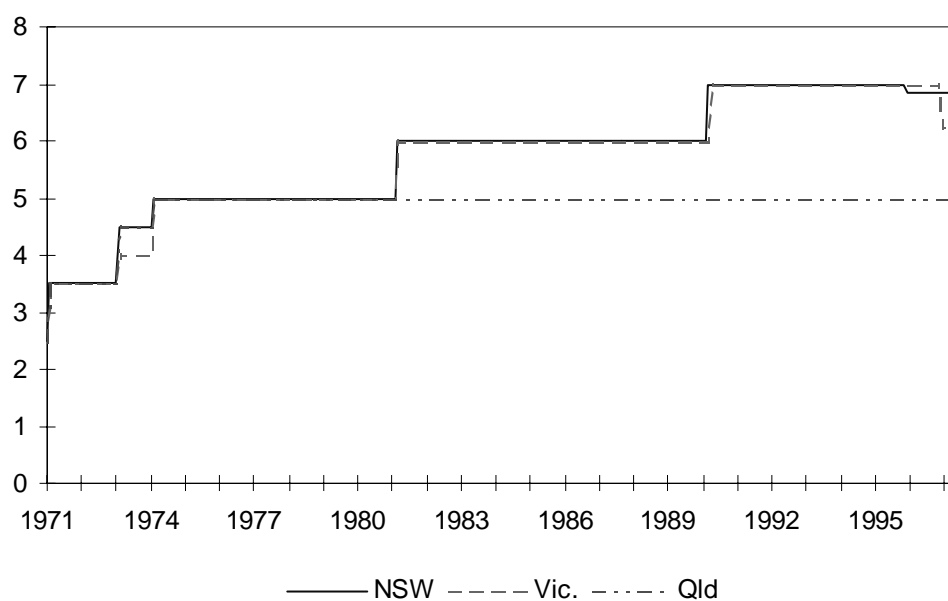
The States immediately increased the rate of *payroll tax* in a coordinated fashion from the then prevailing 2.5 per cent to 3.5 per cent (September 1971), then to 4.5 per cent (September 1973) and, finally, to 5 per cent (September 1974). Since then, the States have increased their rates more or less independently. In December 1991, South Australia became the first State to reverse the trend of rate increases, when it reduced the marginal rate from 6.25 to 6.1 per cent. Since then, most jurisdictions, except for the Northern Territory, have followed with rate cuts of their own.⁸ Many of these reductions

⁷ Assuming that the company paying *payroll tax* makes a profit, this deductibility of *payroll tax* for company tax purposes will reduce the net cost to the company by the company's effective company tax rate times the size of its payroll.

⁸ In addition to rate reductions detailed in Table 6.3, South Australia cut its marginal rate from 6.1 to 6.0 per cent in December 1994 (Government of South Australia 1994, pp. 6–7).

were introduced to maintain *payroll tax* revenue following the inclusion of employer superannuation contributions in the tax base. The movements in maximum marginal *payroll tax* rates for three main States of the eastern seaboard — New South Wales, Victoria and Queensland — are shown in Figure 6.1.

Figure 6.1: Maximum marginal tax rates of payroll tax, selected States, August 1971 to January 1998 (per cent)

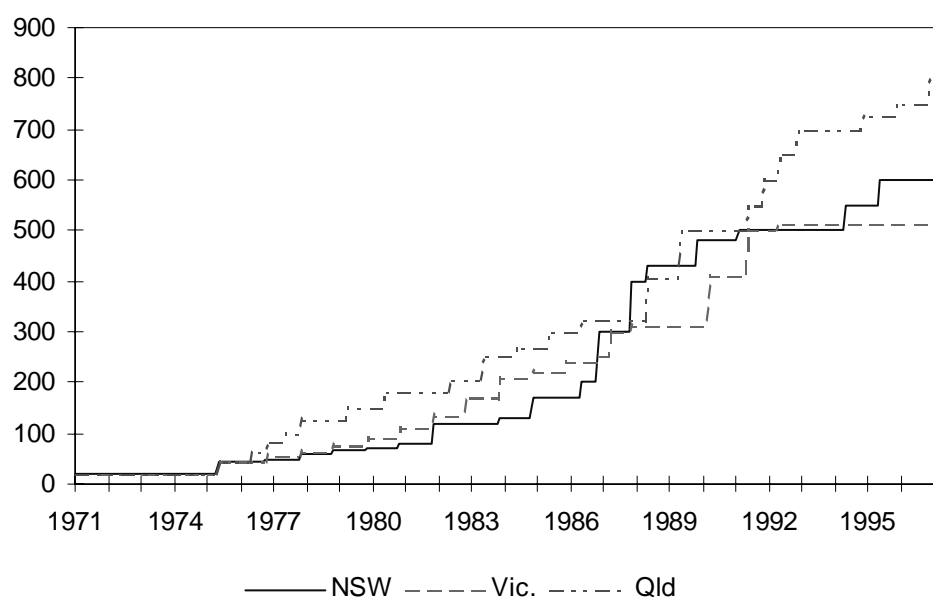


Sources: State Budget Papers (various), Crossman, Gschwind and Skinner (1995), NSW Tax Task Force (1988), NSW Treasury (various) and Shaw (1997).

The tax-free threshold of \$20 800 per year applying at the time of transfer from the Commonwealth to the States (equivalent to \$154 00 in 1996–97) remained unchanged throughout the early 1970s. However, in response to the growth in nominal wages that occurred following the first oil price shock, the States increased the tax-free threshold in a coordinated fashion to \$41 600 in January 1976. A year later, Victoria was the first of the major States unilaterally to increase the threshold — to \$44 800. Since then, States have unilaterally, or in a limited number of cases cooperatively, increased their thresholds (Figure 6.2).

while New South Wales and the ACT both cut their marginal rate from 7.0 to 6.85 per cent in July 1996 (ACT Government 1997b, p.112; New South Wales 1997a, p. 3-5).

Figure 6.2: Payroll tax tax-free thresholds, selected States, September 1971 to January 1998 (\$000)



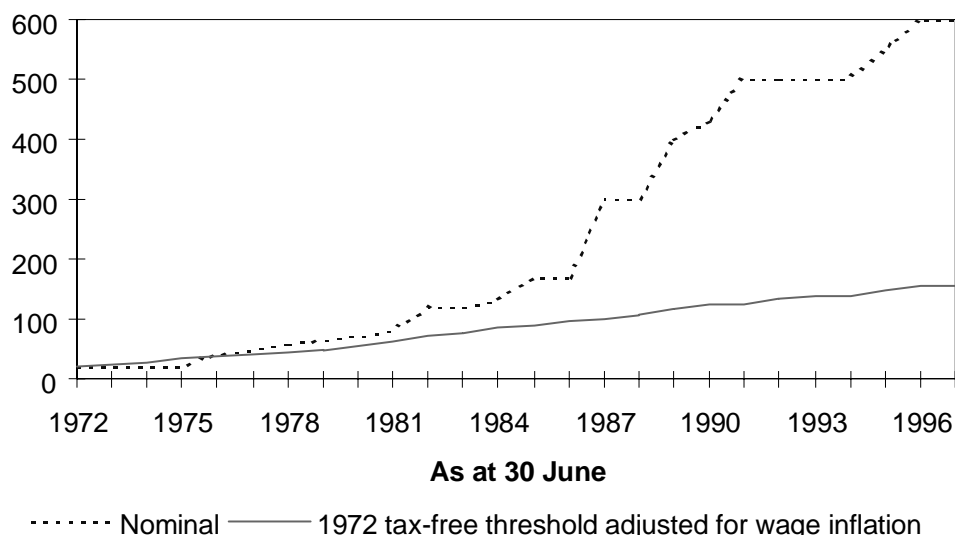
Sources: State Budget Papers (various), Crossman, Gschwind and Skinner (1995), NSW Tax Task Force (1988), NSW Treasury (various) and Shaw (1997).

The growth in thresholds has easily exceeded the growth in nominal wages, representing substantial real increases in thresholds over time (Figure 6.3).

Recently, there has been a gradual move towards greater harmonisation of the *payroll tax* bases. Tax bases have been progressively expanded over time to include some or all of fringe benefits, contractual or agency payments, lump sum payments of accrued leave on termination and employer contributions to superannuation. The 1997–98 State Budgets continued this trend. Victoria, Western Australia and Tasmania broadened their bases to include employer superannuation contributions, leaving Queensland and the Northern Territory as the only States not to include superannuation in their *payroll tax* base.⁹

⁹ Superannuation was included in the *payroll tax* bases in South Australia from 1 December 1994 (Government of South Australia 1994, pp. 6–7), and the ACT and New South Wales from 1 July 1996 (ACT Government 1997b, p. 112; New South Wales 1997a, p. 3–5).

Figure 6.3: Actual payroll tax-free thresholds against 1972 inflation-adjusted threshold, New South Wales, 1972 to 1997 (\$ 000)



Deflator used: Growth in Average Weekly Total Earnings, New South Wales, males, all employees (not seasonally adjusted).

Sources: NSW Treasury (1996, 1998), Grants Commission (various), NSW Tax Task Force (1988, p. 207) and dX database.

The 1997–98 State Budgets also continued recent trends of increasing tax-free thresholds and lowering tax rates (Table 6.3). In part, the rate adjustments announced in Tasmania and the entire adjustment announced in Western Australia are designed to offset the broadening of the tax bases so that no additional revenue is raised. The Tasmanian Government also announced a further cut in the tax rate to 6.35 per cent from 1 July 1998, subject to the passage of legislation relating to the withdrawal of equity from the Hydro-Electric Commission. Queensland's recent increase in its tax-free threshold ensures that it continues to have the highest tax-free threshold, despite a substantial increase in the threshold in the ACT (announced earlier) taking effect on the same day. Prior to its rate cut, Victoria had the highest marginal *payroll tax* rate of any State (with the Northern Territory). The rate cut moves Victoria closer in line with New South Wales, South Australia and the ACT. Nevertheless, Victoria continues to have the second lowest threshold, behind South Australia. The effect of recent changes has been to increase the dispersion among States in terms of their tax-free thresholds, but to reduce the disparity in terms of their tax rates.

Table 6.3: Recent and prospective changes to payroll tax^a

<i>State</i>	<i>Change</i>	<i>Date of effect</i>
NSW	<ul style="list-style-type: none"> • Marginal rate to be reduced from 6.85 to 6.70 per cent 	1 July 1999
Vic.	<ul style="list-style-type: none"> • Tax base broadened to include employer superannuation contributions • Marginal tax rate reduced from 7.0 to 6.25 per cent 	1 July 1997
Qld	<ul style="list-style-type: none"> • Tax-free threshold increased from \$750 000 to \$800 000 • Tax-free threshold increased from \$800 000 to \$850 000 	1 January 1997 1 January 1998
WA	<ul style="list-style-type: none"> • Tax-free threshold raised from \$625 000 to \$675 000 • Marginal tax rates reduced with top rate falling from 6.0 to 5.56 per cent • Tax base broadened to include employer superannuation contributions and fringe benefits 	1 July 1997 1 July 1997 1 July 1997
Tas.	<ul style="list-style-type: none"> • Deduction scheme replaced by single marginal rate scheme • Tax base broadened to include employer superannuation contributions • Tax-free threshold raised from \$565 000 to \$600 000 • Marginal tax rate reduced from 7.0 to 6.60 per cent • Marginal tax rate to be reduced from 6.60 to 6.35 per cent (conditional on passage of legislation) 	1 July 1997 1 July 1997 1 July 1997 1 July 1997 1 July 1998
ACT	<ul style="list-style-type: none"> • Tax-free threshold increased from \$650 000 to \$700 000 • Tax-free threshold increased from \$700 000 to \$800 000 	1 January 1997 1 January 1998

a Changes announced or taking effect after 1 January 1997.

Sources: ACT Government (1996a) and 1997–98 State Budget Papers (various).

Tax competition

As pointed out earlier, nominal and real tax-free thresholds have increased substantially over time. One of the primary factors underlying this increase has been competition between the States. In announcing its 1995 decision to further increase its tax-free threshold, the Queensland Government stated that:

While our tax position is unchallenged, we do not intend to rest on our laurels. We are determined to widen further the gap between ourselves and other States and provide a competitive advantage for Queensland business.

As already announced in *From Strength to Strength*, the Goss Government will implement a business tax relief package worth \$40 million over the next three

years. Major features of the package are further cuts in payroll tax, stamp duties and land tax.

The main feature of this package is the increase in the payroll tax exemption threshold from \$700,000 to \$750,000 in two stages by 1 July next year. (Queensland Government 1995, p. 10)

When one State changes its threshold, the others tend to follow suit, although not always immediately or to the same extent. These changes are not just confined to the three States illustrated in Figure 6.2. Since 1 January 1994, there have been 18 changes in the tax-free thresholds in six States, with the ACT and Queensland having the most recent increases from 1 January 1998. Only Victoria and South Australia have not increased their tax-free thresholds over this period. These States may have resorted to less transparent *specific exemptions* to attract industry to their States. Unfortunately, neither State publishes details on the *specific exemptions* granted.

Somewhat surprisingly, rate cuts have featured little in interstate tax competition. Apart from the six rate reductions that occurred when the tax bases were expanded, there has only been one other rate reduction, in South Australia in December 1991 (from 6.25 to 6.1 per cent). Despite this, anecdotal evidence suggests that tax competition may be spreading to tax rates as well. New South Wales and, conditional on the passage of certain legislation, Tasmania have announced rate cuts to take effect on 1 July 1999 and 1 July 1998, respectively. At this stage, it is unclear whether other States will follow suit.

More recently, tax competition appears to have spread to less obvious forms. States appear to be increasingly resorting to *specific exemptions* and, to a lesser extent, *general exemptions*. For example, the Queensland Government offers concessionary arrangements for Offshore Banking Units and Regional Headquarters of international corporations (Ryan 1995, p. 24), while the South Australian Government granted a specific exemption to Motorola Software Centre Australia to Adelaide (BRW 1994, p. 26).

It is difficult to ascertain directly how widespread *specific exemptions* are, and the terms under which they are granted, other than being for 'significant net economic advantage' to the State (Business Victoria 1997, p. 2). While looking at the wider area of government assistance to industry, the Industry Commission found that:

... there is considerable variability in the reporting of assistance provided to industry by State governments. There is also a lack of transparency and accountability (though this varies significantly between the States) in the provision of industry assistance, particularly selective firm or project-specific assistance. ...

... where assistance has been provided to a specific firm or project from a number of government departments in various forms (eg. tax exemptions or land) the different reporting procedures between departments ensure that it is difficult, if not impossible in many cases, to ascertain the total amount of assistance provided. (IC 1996b, p. 76)

These comments are particularly pertinent to *payroll tax* exemptions. The section on exemptions later in this chapter tries to quantify these through indirect means.

The States view exemptions as one way of attracting businesses to their State, forgoing revenue temporarily for perceived longer term gains (including the tax collected once the exemption expires).

There are problems with this line of reasoning. First, if the firm would have located there anyway, the States may be forgoing revenue unnecessarily. Studies show that the primary factors determining where businesses choose to locate are commercial factors — to be near markets, transport links, skilled labour and raw materials. Taxation and other financial incentives offered by Governments play only a minor role in explaining current location patterns (Coopers and Lybrand 1995), although tax differences may matter more at the margin.¹⁰ Second, and potentially more importantly, other States are doing the same thing. Even if *specific exemptions* can produce tangible benefits when a State acts alone, this may not be the case when the other States also offer exemptions. A State could easily lose more in the way of business than it attracts. Finally, the impact of forgoing *payroll tax* revenue depends on how the loss in revenue is made up — by increasing other taxes, reducing outlays or raising debt. Each of these is likely to have its own costs.

Importance as a source of revenue

Various publications measure *payroll tax* differently. Some measure the net amount of *payroll tax* revenue *received* by the State (eg. the revenue figures published in the most State Budget Papers and ABS 5506.0), whereas others measure the amount of *payroll tax* actually *paid* (eg. ABS 6348.0). The amount received (net of refunds, etc) should be identical to the amount paid for private

¹⁰ Incentives may, for example, influence a company to choose between two otherwise comparable locations, such as between Albury and Wodonga, Canberra and Queanbeyan, Coolangatta and Tweed Heads, or any otherwise comparable locations (as decided by the company). In addition, they may influence the location of certain activities that are reasonably independent of location (eg. the processing of loan applications).

sector firms and GBEs.¹¹ However, this is unlikely to be the case for payments by State government departments, as they are essentially funded through government appropriations. Thus, any payments of *payroll tax* by State government departments are likely to represent internal transfers between government agencies and should, therefore, be netted off the amount of revenue received by the Treasuries. The following revenue estimates represent the amount of revenue actually received, net of any internal transfers.

Payroll tax is the single largest State tax, generating 21 per cent of all State tax revenue in 1995–96 (Table 6.4). Australia-wide, *payroll tax* raises in excess of \$7 billion, equivalent to approximately \$390 per person. New South Wales collects more *payroll tax* revenue in absolute terms (\$2.8 billion), as a share of State tax revenue (22 per cent) and in per capita terms (\$459 per person) than does any other State. New South Wales alone accounts for 40 per cent of national *payroll tax* collections. Queensland is less reliant on *payroll tax* than any other State, raising only 17 per cent of tax revenue. Queensland also raises the least revenue from *payroll tax* in per capita terms (\$256 per person).

Table 6.4: Revenue from State payroll tax, 1995–96

<i>State</i>	<i>Payroll tax revenue</i>	<i>Total tax revenue</i> ^a	<i>Payroll tax share of total tax revenue</i>	<i>Payroll tax revenue per capita</i> ^b
	\$ million	\$ million	Per cent	\$ per person
New South Wales	2 846	12 689	22	459
Victoria	1 994	9 630	21	437
Queensland	854	4 939	17	256
Western Australia	624	3 079	20	353
South Australia	476	2 470	19	323
Tasmania	142	760	19	299
Australian Capital Territory	102	519	20	331
Northern Territory	66	302	22	363
Australia	7 103	34 389	21	388

a Defined as State, Territory and local government *Taxes, fees and fines* less *Fees and fines*.

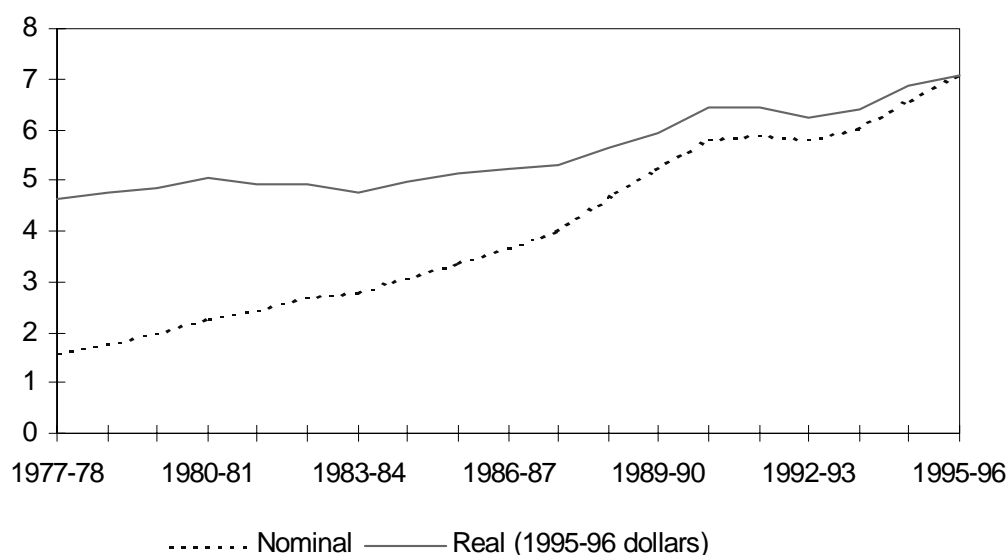
b Based on the estimated resident population as at 30 June 1996.

Sources: ABS 3201.0 and 5506.0.

¹¹ For State GBEs operating at a loss, payments of *payroll tax* may effectively amount to an intra-governmental transfer, if they are being subsidised by a direct injection of funds from the State government.

Over time, revenue collections have been increasing both in nominal and real terms (Figure 6.4).

Figure 6.4: Revenue from State payroll tax, Australia, 1977–78 to 1995–96 (\$ billion)



Deflator used: Consumer price index.
Sources: ABS 5220.0, 5506.0 and 6401.0.

The State Budget Papers and the annual reports of the State Treasuries publish little on the characteristics of payroll taxpayers (eg. number of firms paying *payroll tax*, distribution of the amount of *payroll tax* paid by firm size, and how the amount of *payroll tax* paid varies with employment). This paper, therefore, uses indirect sources in an attempt to ascertain the characteristics of these taxpayers.

The *Labour Cost Australia* survey (ABS 6348.0), henceforth referred to as LCA, provides an alternative source of *payroll tax* data. As it records gross, instead of net, *payroll tax* payments, the revenue estimates provided in the LCA are not strictly comparable with those provided in *Taxation Australia* (ABS 5506.0). Nevertheless, the LCA survey provides some valuable additional detail on *payroll tax* not obtainable elsewhere.

The exact relationship between the size of the tax-free threshold and the number of employees is unclear. In a somewhat dated publication, the Victorian Government expected the tax-free threshold for the 1992–93 financial year to apply to firms typically employing up to 19 employees (State of Victoria 1992, p. 7). This is similar to the 20 employees used by the Grants Commission in

their annual revenue assessments (and, in turn, based on the stratification ranges used by the ABS). Indeed, the LCA survey indicated that only 4.4 per cent of enterprises employing less than 20 employees paid *payroll tax* in 1993–94 (Table 6.5).

Table 6.5: Proportion of private sector enterprises paying payroll tax, 1993–94 (per cent)^a

State	Number of employees			Average across all employers
	Less than 20	20 to 99	100 or more	
New South Wales	4.0	69.6	88.2	7.6
Victoria	5.9	67.3	89.2	9.7
Queensland	2.8	60.6	90.5	5.1
Western Australia	5.0	78.5	79.5	8.7
South Australia	4.7	81.8	89.1	8.8
Tasmania	3.0	62.0	82.1	5.9
Australian Capital Territory	5.0	62.0	83.8	8.8
Northern Territory	5.5	72.2	82.3	12.4
Australia	4.4	69.2	87.9	7.9

a Latest year available.

Source: ABS 6348.0.

In 1993–94, 7.9 per cent of all private sector firms paid *payroll tax* (Table 6.5) and, as expected, the proportion increased with firm size. Overall, the Northern Territory clearly had the highest proportion of firms paying *payroll tax* (12.4 per cent), with Queensland the lowest (5.1 per cent).¹² Queensland had the highest proportion of large employers paying the tax (90.5 per cent) and the lowest proportion of small and medium size employers paying the tax (2.8 and 60.6 per cent, respectively). The SA Department of Treasury and Finance (1996, p. 35) indicated that there were 5 609 private sector and 38 government sector payroll taxpayers (ie. firms or groups of firms) in that State in 1995–96. Queensland claims that ‘more than 95 per cent of employers in Queensland are not required to pay *payroll tax*’ (Queensland Government 1996, p. 45; 1997b, p. 46).

¹² Sampling errors in the *Labour Cost Australia* survey may be more problematic for smaller States. For example, the NT Treasury claim that the ABS figures underestimate *payroll tax* collections from the private sector in 1993–94 by \$10 million (IC1996b, p. 581).

The relationship between the number of firms paying the tax and the amount of revenue collected is not proportional. In 1993–94, 91 per cent of businesses employed less than 20 people (ABS 1321.0), yet they accounted for 26.9 per cent of the *payroll tax* base and 5.8 per cent of total *payroll tax* payments (ABS 6348.0). Therefore, larger businesses bear disproportionately more of the *payroll tax* burden than smaller companies.

International comparisons of the importance of individual taxes are fraught with difficulty. Crossman, Gschwind and Skinner (1995, p. 6) point out that Australia is one of a few countries to levy *payroll tax* and it accounts for the highest share of total taxation revenue (6.5 per cent). However, other countries levy social security superannuation contributions on the same tax base as Australian *payroll tax*. When social security contributions are included, the proportion of total taxation revenue attributable to *payroll tax* in Australia is low in comparison with Europe and the United States, but high relative to our Pacific rim neighbours. This distinction overlooks other forms of labour income (eg. *income tax*) and consumption taxes, which Freebairn (1993) points out are similar to *payroll tax*.

Revenue raising ability and effort

The ability to raise revenue through *payroll tax* varies between States, reflecting differences in their size and industrial composition. In recognition of this, the Grants Commission calculates an *index of revenue raising capacity* to indicate their potential to raise revenue through *payroll tax*. The Grants Commission also produces an *index of the revenue raising effort* to indicate how effectively the States are using their revenue bases.

According to the Grants Commission's *index of revenue raising capacity* (Table 6.6), New South Wales and Victoria were substantially better placed to raise revenue through *payroll taxes* than were the other States in 1995–96 because they had:

- a higher average standardised payroll per capita; and
- a higher proportion of total wages within the private and public government business enterprise (GBE) sectors.¹³

The ability of the other States to raise revenue declines with population, except for Queensland which ranks below both Western Australia and South Australia.

¹³ In its calculations, the Grants Commission adjusts each State's *payroll tax* revenue and their *wages, salaries and supplements* (as a proxy for the tax base) to reflect per capita differences in the distribution of firms by size and the relative importance of the private and public enterprise sectors between States. This process is known as standardisation.

Table 6.6: Revenue raising capacity and effort, payroll tax, 1995–96

State	Grants Commission ^a		Entire revenue base ^b	
	Capacity ^c	Effort ^d	Capacity ^c	Effort ^d
New South Wales	113.6	102.3	111.6	104.1
Victoria	104.2	109.3	104.5	109.0
Queensland	85.6	80.4	88.0	78.2
Western Australia	94.8	95.3	95.5	94.5
South Australia	85.8	96.2	83.0	99.4
Tasmania	66.7	114.3	72.3	105.5
Australian Capital Territory	81.8	103.5	88.6	95.5
Northern Territory	80.5	122.4	84.3	116.8
Australia	100.0	100.0	100.0	100.0

a Estimates published by the Grants Commission based on firms employing 20 or more employees.

b Estimates based on Grants Commission methodology, but including firms employing less than 20 employees.

c Indicates the ability of a State to raise revenue relative to the Australian average ability.

d Indicates the effort made by individual States to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997a, pp. 288–289) and own estimates.

The *index of revenue raising effort* measured, on a per capita basis, the amount of revenue raised in a State relative to the Australian average effort in 1995–96. The index showed that the Northern Territory, Tasmania and Victoria exploited their *payroll tax* bases better than did the other States (Table 6.6). Queensland and, to a lesser extent, South Australia and Western Australia used their bases less effectively than did the other States. Differences in the index between States indicate that the way the *payroll tax* system is designed (ie. the base, the rate and the tax-free threshold) is an important determinant of the effort made. Those States with high marginal tax rates and low tax-free thresholds have a high revenue raising effort (all other things being equal). Likewise, *clawback schemes* are better suited to raising revenue than *non-clawback schemes*. Despite the Northern Territory and Tasmania having lower revenue raising capacities, higher tax-free thresholds and the same maximum rate of taxation as Victoria, they both had a higher revenue raising effort than Victoria.¹⁴ In the case of Queensland and Western Australia, which both operated *clawback schemes*, other factors explain their low revenue raising effort. Both States had relatively high tax-free thresholds and low marginal rates of taxation. In fact, Queensland had the lowest marginal tax rate of any State in Australia.

¹⁴ In 1995–96, Tasmania operated a *single marginal rate scheme* with *clawback*. The *clawback* component was dispensed with from 1 July 1997.

The recent abolition of the *clawback scheme* in Tasmania is likely to reduce the effort made in that State in 1996–97. Nevertheless, the broad conclusions drawn from the 1995–96 indices are likely to remain.

The Grants Commission calculations exclude firms with less than 20 employees (1997b, p. 24). While this approach yields a fair approximation to the actual tax base, and hence the current *average effective tax rates*, the resulting measures of *revenue raising capacity and effort* potentially may not be a genuine indicator of the capacity of a State to collect payroll tax revenue, as they underestimate the size of the potential tax base.¹⁵ However, correcting for this difference does not change the general thrust of the Grants Commission's findings (Table 6.6). Although the indices themselves change, the relativities generally do not. A notable exception is the ACT, where its revenue raising effort falls to below average because of its relatively high proportion of small firms.

Effective rate of payroll tax

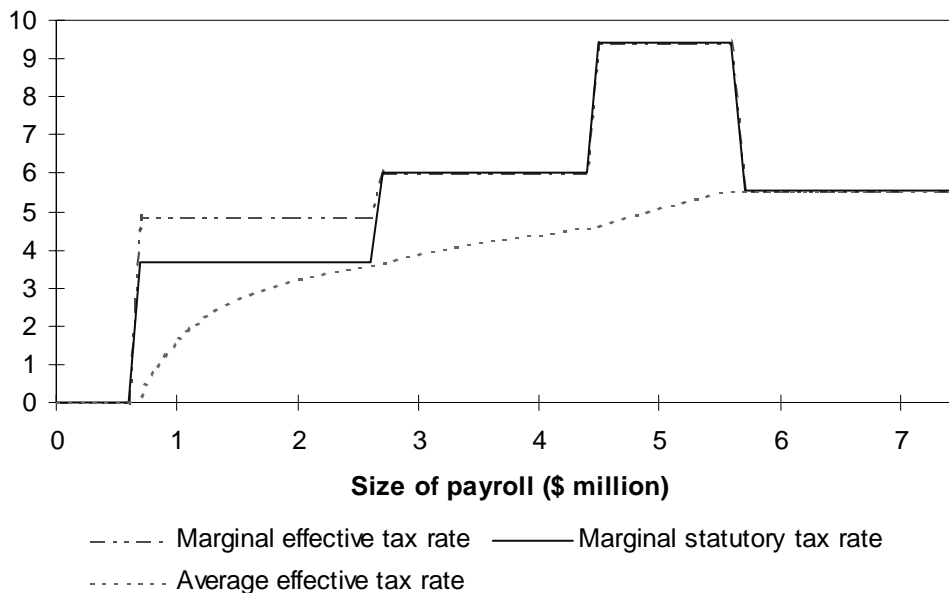
The rate at which *payroll tax* is levied on employers is known as the statutory rate of *payroll tax* (Table 6.2). It may differ from the rate the company effectively pays because of:

- the tax-free threshold;
- social welfare exemptions; and
- specific exemptions.

The effective tax rate faced by a firm (ETR) measures the amount of tax paid in relation to the size of their *payroll tax* base and will vary depending on the proportion of the payroll above the tax-free threshold and the extent of any clawback arrangements. Profit making companies are not generally entitled to the *social welfare exemptions* and the number of firms receiving *specific exemptions* are likely to be small. The ETR increases with the size of the payroll, tending towards the maximum statutory rate (Figure 6.5). The ETR increases more quickly under *clawback schemes* than under *non clawback schemes* (all other things being equal) and, above the *upper taper limit*, the ETR will equal the maximum statutory rate (not necessarily the highest rate).

¹⁵ This means that the *average effective tax rate* across all potential taxpayers would be lower than indicated by the Grants Commission. Hence, the *indices of revenue raising capacity and effort* would also differ from those reported, depending on differences in the distribution of firms employing less than 20 employees between States.

Figure 6.5: Payroll tax rates, Western Australia, 1 January 1998 (per cent)^{ab}



a For a local non-group employer not entitled to any specific exemptions.

b The marginal effective tax rate is the combined effect of the marginal statutory tax rate and the marginal reduction in the tax-free threshold that is clawed back.

Source: Estimates based on WA State Revenue Department (1997b).

Apart from varying between firms, the ETR also varies between industries and States. The industry dimension reflects differences in firm size between industries, while the numerous differences in *payroll tax* schemes give rise to the interstate differences. Therefore, the average ETR across all firms — the AETR — will also differ between industries and States. In practice, the AETR often differs significantly from the maximum statutory rate. Although the AETR can be calculated in different ways, this section focuses on the most widely used method (the WSS approach) and an alternative method based on a different data source (the LCA approach). The strengths and the weaknesses of these two methods are discussed in Box 6.3.

Box 6.3: Calculating the average effective payroll tax rate

Most Australian studies of *payroll tax* calculate the AETR by taking the ratio of *payroll tax* revenue collected to *wages, salaries and supplements* (WSS), as a proxy for the underlying base (eg. Grants Commission (various), Crossman, Gschwind and Skinner 1995, and Ryan 1995). The AETR (WSS approach) reported here combines the tax revenue estimates from ABS 5506.0 with the WSS data from ABS 5220.0.

The WSS approach has a number of strengths. It is suited to assessing the actual *payroll tax* revenue collected in comparison with the potential, as opposed to actual, tax base. The ABS has published the data annually over an extended period of time, with the latest data being available for 1995–96.

The WSS approach, however, is not a particularly accurate measure of the actual AETR for a number of reasons. First, most *supplements* fall outside the scope of what, at the time the above studies were undertaken, constituted a payroll for *payroll tax* purposes. South Australia, New South Wales and the ACT progressively included employer superannuation contributions in the tax base from 1 July 1994. The very recent expansion of the tax bases in Victoria, Western Australia and Tasmania will make this less of an issue in the future. Nevertheless, direct payments of pensions and employee claims incurred under workers' compensation are included in supplements (ABS 5514.0, p. 72), but are not, for the most part, subject to *payroll tax*. Secondly, not all *wages and salaries* paid are subject to *payroll tax*. Constitutional restrictions prevent the States from taxing WSS paid by the Commonwealth, although Commonwealth GBEs are subject to *payroll tax*, and local governments are effectively exempt. Thirdly, as payments of *payroll tax* by State government departments effectively represent intra-governmental transfers, with no net addition to overall revenue, their WSS should be deducted from the taxable base, especially if net *payroll tax* revenue is being used. The use of WSS will, therefore, overestimate the size of the actual tax base and underestimate the AETR.

In recognition of this, this paper also reports AETRs based on unpublished data from the *Labour Costs Australia* (LCA) survey. Under the AETR (LCA approach), the AETR is calculated as the ratio of *payroll tax paid* to *total earnings* — gross wages and salaries, termination payments and fringe benefits. Reflecting the treatment in 1993–94 (latest available LCA), employer superannuation contributions have not been included within the tax base. The AETRs presented in this paper primarily focus on these estimates for private enterprises and GBEs and, unless otherwise indicated, exclude payments of *payroll tax* by the *general government* sector (see glossary) for the reasons outlined earlier in this chapter.

Australia-wide, the AETR (LCA approach) of *payroll tax* was 4.2 per cent in 1993–94 (Table 6.7). This compares with a weighted-average statutory rate of

6.6 per cent. In line with its claim to be a low tax State, Queensland has the lowest AETR (3.1 per cent). Thereafter, the AETRs increase, more or less in line with population, with Victoria and New South Wales having the highest at 4.5 per cent. While the pattern for private sector firms closely resembles the overall totals, the distribution by public sector enterprises is quite different. The Northern Territory and Tasmania face the highest AETR rates (7.3 and 6.1 per cent, respectively), while public enterprises in Queensland and the ACT face the lowest (4.5 and 4.9 per cent, respectively).¹⁶

Table 6.7: Average effective and statutory payroll tax rates, 1993–94 (per cent)^{ab}

<i>State</i>	<i>AETR (LCA approach)</i>			<i>Maximum statutory tax rate</i>
	<i>Private</i>	<i>Public enterprises</i>	<i>Total^c</i>	
New South Wales	4.2	5.9	4.5	7.0
Victoria	4.4	5.9	4.5	7.0
Queensland	3.0	4.5	3.1	5.0
Western Australia	3.6	5.5	3.8	6.0
South Australia	3.5	5.5	3.8	6.1
Tasmania	3.9	6.1	4.1	7.0
Australian Capital Territory	3.6	4.9	3.8	7.0
Northern Territory	3.1	7.3	3.3	7.0
Australia	4.0	5.9	4.2	6.6

a Excluding firms operating in the *agriculture, forestry and fishing* industry.

b The base is defined to be *total earnings* as payroll tax was not levied on superannuation in 1993–94.

c Excluding the *general government* sector.

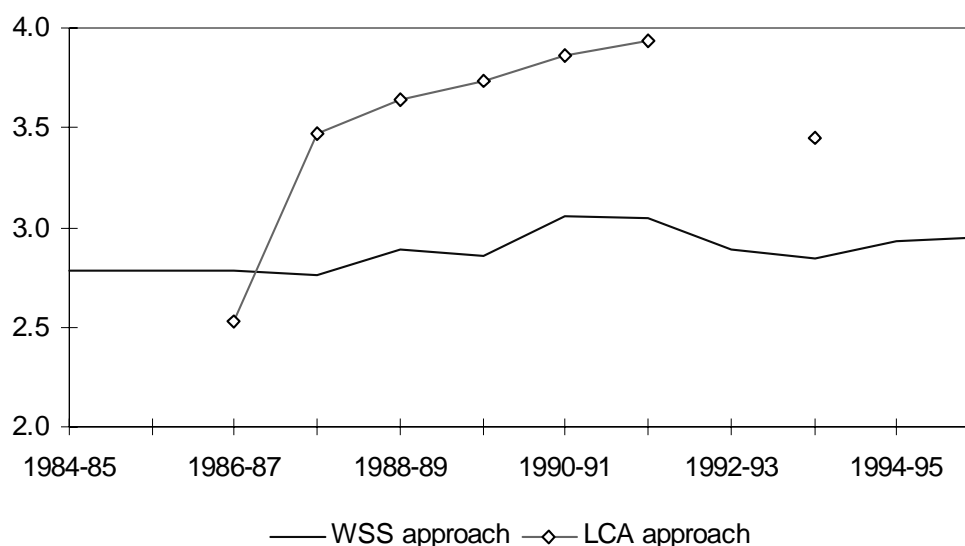
Source: Estimates based on ABS 6348.0 (unpublished).

The WSS and LCA approaches yield very different estimates of the AETR, regardless of the year chosen (Figure 6.6). In part, this difference may reflect the inclusion of WSS paid by the *general government* sector in the WSS approach. If the *general government* sector is included in the LCA approach, the AETR would fall from 4.2 to 3.5 per cent (Table 6.8). While still higher

¹⁶ The effective rate for public enterprises in the Northern Territory actually exceeds the maximum statutory rate payable, which supports the claim that there are problems with the treatment of the smaller States in the LCA. The ABS did not qualify any of the totals used in these calculations on the grounds of high standard errors. Some of the more disaggregated data were, however, qualified.

than the corresponding estimate based on the WSS approach, the estimate is much closer than when the *general government* sector is excluded.

Figure 6.6: Average effective payroll tax rates, Australia, 1984–85 to 1995–96 (per cent)



WSS approach: Ratio of *employers' payroll taxes* (net) to total *wages, salaries and supplements*.

LCA approach: Ratio of gross *payroll tax* payments to gross *total earnings*.

Source: Estimates based on ABS 5506.0 and 5220.0.

The time series data (Figure 6.6) indicate that the AETR (WSS approach) has been more or less constant since 1984–85, lying in the range 2.8 to 3.1 per cent. This is despite all the changes that have been made to *payroll tax* over this period. The 1995–96 estimate of almost 3.0 per cent continues a slight trend of gradual increases since 1993–94. The LCA approach indicates a trend of slight increases over the period from 1987–88 to 1991–92, followed by a decline in the AETR since then.

Table 6.8: Average effective payroll tax rates, WSS and LCA approaches, 1993–94 (per cent)

<i>State</i>	<i>WSS approach^b</i>	<i>LCA approach^a</i>	
		<i>Total (inc. general govt)</i>	<i>Total (exc. general govt)</i>
New South Wales	3.3	3.8	4.5
Victoria	3.1	3.8	4.5
Queensland	2.1	2.9	3.1
Western Australia	2.7	2.8	3.8
South Australia	2.3	3.2	3.8
Tasmania	2.9	3.2	4.1
Australian Capital Territory	1.6	1.7	3.8
Northern Territory	2.3	3.3	3.3
Australia	2.9	3.5	4.2

a Excluding firms operating in the *agriculture, forestry and fishing* industry. Ratio of gross payroll tax payments to gross total earnings.

b Ratio of employers' payroll taxes (net) to wages, salaries and supplements.

Source: Estimates based on ABS 5220.0, 5506.0 and 6348.0 (unpublished).

Exemptions

The options for State tax reform depend, not only on the taxes actually levied, but also on their potential coverage. Exemptions narrow the tax base, reduce the number of taxpayers and, in doing so, the States are forgoing potential tax revenue (often called tax expenditures). For smaller taxpayers, however, the revenue forgone may be less than the administration and compliance costs that would have been incurred if the exemption did not apply.

If the revenue forgone exceeds the costs of collecting it, the State can raise the same amount of revenue more efficiently by:

- reducing, or even eliminating, exemptions and lowering the rate of taxation; and/or
- reducing, or even eliminating, exemptions and placing less reliance on other more inefficient taxes.

However, before either of these reforms can be considered, the amount of revenue forgone through *payroll tax* exemptions needs to be assessed. The economic effects of the exemptions are discussed, and a comparison with administration and compliance costs is made later in this chapter.

As mentioned previously, the main exemptions to *payroll tax* are the *small business exemptions*, *social welfare exemptions* and *specific exemptions*.

Two States estimate the amount of *payroll tax* revenue forgone through exemptions (Table 6.9). In 1996–97, New South Wales costed its *payroll tax* exemptions at \$315 million, or 10 per cent of *payroll tax* revenue. The estimate included exemptions for public hospitals (\$200 million) and local government (\$90 million), but excluded the small business exemption and medium business concessions. The estimate is considerably lower in percentage terms than an earlier, more comprehensive estimate in a study undertaken for the NSW Department of Finance and reproduced by the NSW Tax Task Force. Maynard (1988) estimated that amount of *payroll tax* revenue forgone in New South Wales was \$278 million in 1986–87, or 28 per cent of the revenue raised from *payroll tax*. The *small business exemption* accounted for 83 per cent of the revenue forgone. In comparison, the WA Budget Papers costed Western Australia's *payroll tax* exemptions at \$419 million in 1996–97, or 61 per cent of *payroll tax* revenue, with small businesses (\$258 million) and medium business concessions (\$78 million) being the main exemptions. The gaps in coverage of the more recent studies suggest that they may understate, possibly to a considerable extent, the amount of *payroll tax* revenue forgone through exemptions.

Direct estimation of the size of these exemptions is difficult as it requires detailed data on the number of organisations eligible for the exemptions and the size of their payrolls (or employment as a proxy). For example, Maynard (1988) estimated the number of people employed by the major churches in New South Wales in order to estimate the size of the exemption afforded to churches and charitable bodies.

Rather than using this approach, this paper estimates the amount of revenue forgone indirectly by ascertaining how much revenue could be raised if the AETR equalled the statutory tax rate, assuming the absence of any timing differences (Table 6.7).¹⁷ Some precision is lost, however, as there is no clear concordance between the classifications used by the ABS (eg. employment brackets and industry definitions) and those applicable for *payroll tax* purposes.

¹⁷ As *payroll tax* is paid with a lag, typically in the order of one to two months, this assumption is not strictly valid. However, the effects due to timing are likely to be relatively small compared with the exemptions themselves.

Table 6.9: Payroll tax revenue forgone through exemptions, New South Wales and Western Australia, 1996–97

Nature of exemption	New South Wales		Western Australia	
	Revenue forgone	Share	Revenue forgone	Share
	\$ million	Per cent	\$ million	Per cent
Small businesses	ne	na	258	62
Public hospitals	200	63	19	5
Local government ^a	90	29	ne	na
Medium business concessions	ne	na	78	19
Employer superannuation	na	na	44	11
Public benevolent institutions ^b	25	8	ne	na
Fringe benefits	na	na	12	3
Apprentices and trainees	ne	na	8	2
Total payroll tax revenue forgone	315	100	419	100
Tax revenue (estimated actual) ^c	3 016		682	
Share of tax revenue forgone	10 per cent		61 per cent	

a Non-commercial activities only.

b Includes charitable and religious bodies.

c Revenue from *payroll tax* as published by the States in their Budget Papers.

Sources: New South Wales (1997a, pp. 3-12 & 4-202) and Government of Western Australia (1997b, pp. 89 & 124).

It is estimated that, if all companies paid *payroll tax* at the maximum statutory rate, the States could have raised up to 58 per cent more *payroll tax* revenue Australia-wide in 1993–94 (Table 6.10, based on the last two columns in Table 6.7).¹⁸ The amount of additional revenue would have varied between States, ranging from 55 per cent in Victoria and New South Wales to 113 per cent in the Northern Territory.¹⁹

Most businesses employing more than 20 people are subject to *payroll tax* (Table 6.5). Therefore, the effect of the *small business exemption* can be approximated by increasing the AETR for all businesses employing fewer than

¹⁸ This underestimates the amount of revenue forgone, because the AETR used does not recognise that superannuation contributions are included in the tax base.

¹⁹ The Northern Territory figure needs to be treated with caution. The Northern Territory claims that the ABS's LCA survey underestimated the amount of revenue received from the private sector, so the above estimate would overstate the amount of revenue forgone.

20 employees to the maximum statutory tax rate. The use of 20 employees as a proxy for the *payroll tax* threshold is consistent with the practice used by the Grants Commission and similar to the estimates published by the Victorian Government (State of Victoria 1992, p. 7). The estimated revenue forgone from the *small business exemption* is presented shortly.

General exemptions primarily apply to non-profit educational, welfare and other benevolent institutions. The effects of these *social welfare exemptions* have been approximated by increasing the AETR for the *education* and *health and community services* industries to the maximum statutory tax rate. It has been assumed here that all private sector and public enterprise firms operating within these industries benefit from this exemption. The exemption applying to local government has not been costed, as the LCA survey does not break *general government* into Commonwealth, State and local government.

The residual amount of revenue forgone has been loosely classified as ‘other exemptions’. It represents a combination of the tax-free threshold applying to larger firms and specific exemptions, together with other factors such as possible timing differences.

Some firms engaged in the activities to which exemptions have been attributed are not actually subject to those exemptions. For example, there are private sector firms operating for profit within the *health and community services sector* that are not subject to the *general exemption* applying to non-profit firms. As a result, the ABS data indicate that these industries actually pay some *payroll tax*, and the AETR of the industry is positive. Similarly, some firms in the *health and community services sector*, for example, would be subject to an exemption other than the *social welfare exemption*, but their exemption has nevertheless been allocated to the social welfare category. Thus, the resulting costing gives only an approximate breakdown between types of exemption.

Australia-wide, an estimated \$3.2 billion in potential *payroll tax* revenue was forgone through exemptions in 1993–94 (Table 6.10). As noted, this represented 58 per cent of the revenue raised from private and public sector enterprises and a little under 40 per cent of the potential base. The proportion of potential revenue forgone is highest for Queensland and the smaller States.

Table 6.10: Total payroll tax revenue forgone, by State, 1993–94^a

<i>State</i>	<i>Actual revenue</i>	<i>Revenue forgone</i>	<i>Potential tax base</i>	<i>Revenue forgone as share of:</i>	
				<i>Actual revenue</i>	<i>Potential tax base</i>
	\$ million	\$ million	\$ million	Per cent	Per cent
New South Wales	2 318	1 300	3 620	56	36
Victoria	1 677	915	2 595	54	35
Queensland	548	350	891	65	39
Western Australia	429	243	674	56	36
South Australia	326	202	526	62	38
Tasmania	103	76	178	75	43
Australian Capital Territory	62	56	116	93	48
Northern Territory	38 ^b	49	82	148	60
Australia	5 500	3 185	8 682	58	37

a *Payroll tax* revenue forgone on *private* and *public sector enterprises* through exemptions, as measured by the difference between the AETR and statutory rate of *payroll tax*.

b The Northern Territory claim that the ABS's LCA understates their *payroll tax* revenue from the private sector.

Source: Estimates based on ABS 6348.0 (unpublished).

The tax-free threshold applying to small business is the single largest exemption from *payroll tax*, accounting for approximately \$1.8 billion Australia-wide or 56 per cent of all exemptions (Table 6.11). The next largest exemption is the residual 'other exemptions' category. Only a modest amount of revenue is forgone through exemptions to social welfare institutions (\$550 million).

These estimates may underestimate the amount of revenue forgone, as the LCA excludes firms within the *agriculture, forestry and fishing* industry.

Table 6.11: Payroll tax revenue forgone, by State and type of exemption, 1993–94 (\$ million)^a

<i>State</i>	<i>Small business^b</i>	<i>Social welfare^c</i>	<i>Other exemptions^d</i>	<i>Total exemptions</i>
New South Wales	732	195	373	1 300
Victoria	484	150	281	915
Queensland	209	72	70	350
Western Australia	134	51	59	243
South Australia	113	41	48	202
Tasmania	43	17	17	76
Australian Capital Territory	27	11	18	56
Northern Territory	21	12	16	49
Australia	1 782	557	846	3 185
<i>Exemptions as a share of:</i>				
– total revenue forgone	56	17	27	100
– actual payroll tax revenue	32	10	15	58

a *Payroll tax* revenue forgone on *private* and *public sector enterprises* through exemptions, as measured by the difference between the AETR and statutory rate of *payroll tax*.

b Calculated from businesses employing less than 20 people, not subject to the *social welfare exemption*.

c Calculated from businesses in the *education* and *health and community services* industries.

d Calculated from businesses employing 20 or more people, not subject to the *small business* and *social welfare exemptions*.

Source: Estimates based on ABS 6348.0 (unpublished).

6.2 Assessment

Efficiency

The efficiency of a tax depends on how it is implemented — its coverage, its rate structure, its concessions, its definitions, and its interrelationships with the demand and supply of other goods. However, efficiency is often assessed ignoring concessions, exemptions and other administrative encumbrances. This can be misleading, especially if the inefficiencies arise because of the administrative arrangements. This is likely to be important for *payroll tax* because of the wide range of exemptions offered.

In its current form, *payroll tax* is far from comprehensive. The tax base is quite narrow compared with what it could be and is concentrated on larger

companies. Yet, *payroll tax* is potentially one of the broadest taxes available to the States. This suggests that *payroll tax* as currently implemented may be less efficient than it potentially could be.

The main sources of efficiency loss associated with *payroll tax*, as it is currently levied, are likely to stem from:

- its narrow tax base;
- its incomplete coverage of all forms of remuneration;
- the way it affects the choice of resources used in production; and
- the way it distorts the work-leisure choice.

Further inefficiencies may arise from administration and compliance procedures.

The presence of tax-free thresholds penalise larger firms, relative to their smaller rivals who are unencumbered by the burden of *payroll tax*. This may give smaller firms a competitive advantage over their larger rivals and deter some firms from growing in size. As a result, some distortion in efficient resource use may occur. The existence of *clawback schemes* that reclaim the tax forgone on the threshold may exacerbate this loss in efficiency.

The published data are incapable of ascertaining whether tax-free thresholds deter firms from expanding or give smaller firms an undue cost advantage over larger firms. The published data on the distribution of firms by size of payroll or, as a proxy, by size of employment are too highly aggregated for these purposes. Thus, it is impossible to gauge whether there is a grouping of firms just below the threshold deterred from expanding by the presence of *payroll tax*. Yet, the tax-free threshold does confer a real cost advantage to smaller businesses and, as such, the likelihood of efficiency losses should not be dismissed lightly. However, some form of exemption for small business may be efficient, given the administrative and compliance costs involved. This issue is explored further in the discussion that follows on administration and compliance costs.

Although it is impossible to estimate precisely the size, distribution and efficiency implications of *specific exemptions*, they nevertheless provide firms with a very real incentive to divert otherwise productive resources into lobbying State governments for such an exemption. They also provide companies with an incentive to play State governments off against each other, seeking the most favourable exemption possible. An overall efficiency loss will occur, from an Australian perspective, where a company relocates within Australia, as opposed to relocating to Australia, on the basis of such an exemption. The State issuing the exemption may appear to gain. However, other States may retaliate, and

even if they do not, the State is likely to lose once account is taken of the need to fund the incentives from other sources (IC 1996).

Theoretically, the presence of multiple tax rates in *marginal rates schemes* may produce some loss in efficiency. In practice, the tax brackets in all States except the Northern Territory are designed so that the AETR gradually increases in a more or less smooth fashion (Figure 6.5). Nevertheless, the change in the marginal tax rate may alter behaviour at the margin. It is difficult to tell whether this occurs in reality, for the same reason that it is difficult to ascertain the effect of the tax-free threshold. Detailed historical data did not indicate a correlation between firm size and the rates structure of the *marginal rates scheme* that operated in Tasmania in 1988–89 (Parliament of Tasmania 1989, p. 9). To the extent that firms alter their behaviour in response to the operation of *marginal rates* or *clawback schemes*, the effects are likely to be secondary to the distortionary effects of the tax-free threshold.

In contrast, the efficiency losses associated with the Northern Territory's *average rates scheme* are likely to be higher, possibly even significantly higher, than for *marginal rates schemes*. Under an *average rates scheme*, a firm moving from one tax bracket to another will pay the new higher tax rate, not on the payroll exceeding the tax bracket as under a *marginal rates scheme*, but on its entire payroll above the adjusted tax-free threshold. Small increases in payroll can, under certain circumstances, lead to large increases in *payroll tax liability* (Table 6.12). Such a scheme can yield marginal effective tax rates in excess of 1 000 per cent on some taxpayers. Such high effective tax rates would provide firms with a strong disincentive to expand.²⁰

Given that the AETR increases at a faster rate under a *clawback scheme* than under a *single marginal rate scheme* (all other things being equal),²¹ *clawback schemes* may also cause efficiency losses by discouraging smaller firms from expanding (Figure 6.7). This led the NSW Tax Task Force to favour a *single marginal rate scheme* on the grounds that it would achieve:

... as neutral a distribution of the tax burden as possible to allow market forces determine which activities flourish in New South Wales. (NSW Tax Task Force 1988, p. 232)

Single marginal rate schemes would also be easier for taxpayers to understand and comply with.

²⁰ The marginal effective tax rate also changes at the (unadjusted) tax-free threshold and at the *upper taper limit*, although the change is considerably smaller than that indicated in Table 6.12.

²¹ Strictly speaking, this only applies for firms operating below the *upper taper level*. However, this is where a majority of firms lie.

Table 6.12: Illustration of the potential change in the average payroll tax liability, Northern Territory, as at 1 January 1998^a

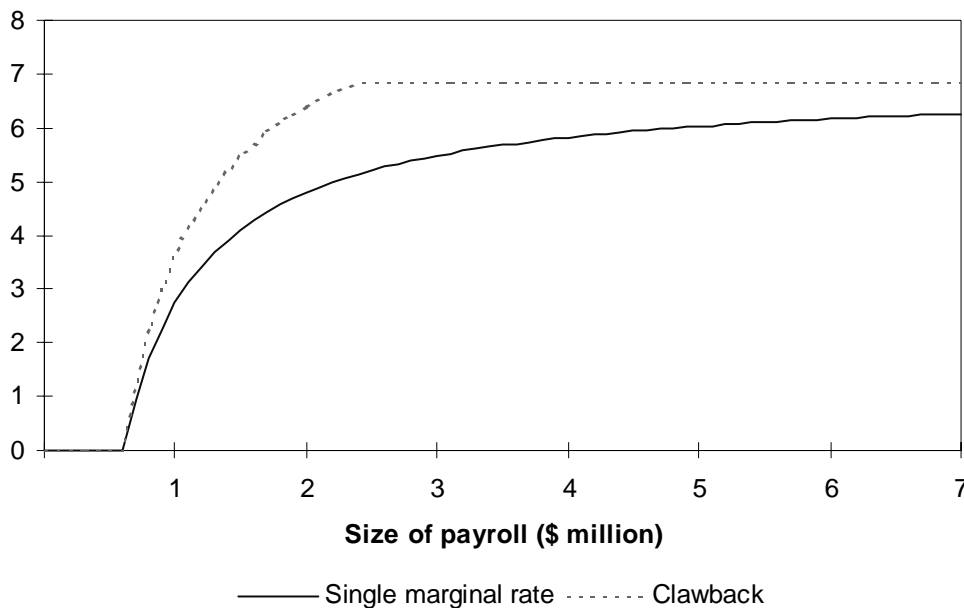
	<i>Annual payroll</i>	<i>Adjusted tax-free threshold^b</i>	<i>Taxable payroll</i>	<i>Statutory (average) tax rate</i>	<i>Payroll tax payable</i>
Payroll 1	\$1 250 000	\$33 333	\$1 216 667	5%	\$60 833
Payroll 2	\$1 250 400	\$33 067	\$1 217 333	6%	\$73 040
Difference	\$400	(\$267)	\$667	1%	\$12 207
Marginal effective tax rate (= \$12 207/\$400)					3 052%

a All dollar amounts in the table have been rounded for presentational purposes only.

b Tax-free threshold clawed back at a rate of \$2 for every \$3 of additional payroll above the tax-free threshold of \$520 000 per year, up to the upper taper limit of \$1.3 million.

Source: Estimates based on NT Treasury (1995).

Figure 6.7: Effective tax rates under single marginal rate and clawback schemes (per cent)



Single marginal rate scheme: \$0 to \$600 000, nil; over \$600 000, 5%.

Clawback scheme: \$0 to \$600 000, nil; over \$600 000, 5% with a \$1 for \$3 clawback up to \$2.4 million

There may be efficiency losses associated with the anomalous treatment of grouping provisions in Western Australia (Box 6.2). For a group that also operates outside Western Australia, the value of wages used to calculate the tax

rate may be less than the group's Australian wage bill. However, a firm or group with the same aggregate wage bill operating wholly within the State would have their tax rate calculated on the basis of their total wage bill (WA State Revenue Department 1997b, 1997c). However, the effect of this anomaly is likely to be small.

Although covering most forms of labour income, *payroll tax* does not cover all forms. Labour incomes paid by the Commonwealth and local governments are untaxed — the former for constitutional reasons and the latter for administrative simplicity, as local governments are heavily dependent on State governments for funds. Employer superannuation contributions remain untaxed in Queensland and the Northern Territory. Likewise, labour income earned by the self-employed remains untaxed, as is the use of some subcontractors and certain types of fringe benefits. Additional losses may arise as the definitions are not standardised across Australia. This may, at the margin, cause some loss in efficiency if firms alter the form of the remuneration they offer, make greater use of subcontractors or switch their production between States.

More importantly, by taxing the value of labour, *payroll tax* may distort the production process a firm chooses. The extent of this inefficiency depends on the wage sensitivity of labour demand and supply (Appendix B). For a *payroll tax* applied comprehensively across Australia as a whole, the efficiency losses may not be great, because of the relative wage insensitivity of aggregate labour supply. For similar reasons, *land tax* and *municipal rates* on non-residential and agricultural land may not impose particularly great efficiency losses. In comparison, capital is relatively lightly taxed by the States, but as it is generally more mobile than either labour or land, so the efficiency losses may be higher than for *payroll tax*. The issue of whether *payroll tax* causes unemployment is taken up in the next section, as it has a direct impact on the fairness of *payroll tax*.

One criticism often levied at *payroll tax* is that it disadvantages exporters by taxing a key input in the production process and disadvantages domestically produced goods relative to imports. It is argued that a destination-based tax, such as a VAT, would overcome these problems, thereby improving efficiency. These criticisms are not, however, confined to *payroll tax* and could be levied against any origin-based tax, such as the Commonwealth's *wholesale sales tax*. In fact, over half of Australia's indirect taxes initially fall on business inputs (Chisholm 1993, p. 330). The distinction that is important here is the difference between origin-based taxes, such as *payroll tax*, and destination-based taxes, such as a VAT or GST. Pender (1997, pp. 118–119) points out that the current account benefits from destination-based taxes are 'illusory' owing to induced changes in the real exchange rate, and changes in the relative tax burden

between the traded and non-traded goods sectors. Furthermore, the States do not have the constitutional power to levy a destination-based tax.

Freebairn (1991, 1993) points out that the effects of a *payroll tax* are similar to those of a *consumption tax*, because in both cases the burden is ultimately born by labour. This result was established under a number of different assumptions regarding tax incidence. The incomplete nature of *payroll tax* as a tax on labour income means that it is currently less efficient than an equivalent *consumption tax*. As noted, however, the States cannot levy a comprehensive *consumption tax*, as it would be constitutionally invalid if levied on goods.

However, a *comprehensive payroll tax* with no exemptions would be very similar to a tax on labour income. The difference in legal incidence between the two is irrelevant, since what matters from an efficiency perspective is the economic incidence. Making *payroll tax* comprehensive would strengthen its position as one of the broadest taxes currently used by the States, along with *land tax*.

Like any labour tax, *payroll tax* causes some loss in efficiency by distorting employees' work-leisure choices. If *payroll tax* reduces after-tax wages, employees could respond by working less and enjoying more leisure (as the return to their effort has fallen), or by working longer and enjoying less leisure (to maintain their after-tax income). However, pre-existing rigidities in labour markets may reduce the extent of such distortions, by restricting the ability of employees to alter their work-leisure choices.

A limited number of studies have estimated the efficiency of Australian *income tax* (Findlay and Jones 1982, Freebairn 1995, and Campbell and Bond 1997). All take into account the effects on employees, while Freebairn also takes into account the effects on producers. Findlay and Jones and Freebairn assess the impact of taxing labour income, ignoring capital income, so their studies are particularly relevant for assessing the efficiency of *payroll tax*.

The studies typically find that the supply of labour is relatively insensitive to changes in wages, with an uncompensated elasticity of around +0.06 and a compensated elasticity of +0.14 (Table 6.13). These estimates suggest that, as nominal wages increase, workers supply more labour, reflecting a leisure-work substitution.

Table 6.13: Own-price elasticity of labour supply with respect to real wages, Australia

<i>Study</i>	<i>Year</i>	<i>Uncompensated elasticity</i>	<i>Compensated elasticity</i>
Findlay & Jones (1982)	1978–79	ne	+0.2 (+0.1 to +0.4)
Apps & Savage (1989)	1981–82	+0.0631	+0.1406
Freebairn (1995)	1993	ne	+0.2 (+0.1)
Stacey & Downes (1995)	1971–95	+0.05	ne
Campbell & Bond (1997)	1988–89	+0.0651 (+0.03 to +0.52)	+0.1408 (-0.08 to +0.48)

Numbers in parentheses denote range of sensitivity tests.

Sources: Findlay and Jones (1982), Freebairn (1995), Stacey and Downes (1995) and Campbell and Bond (1997).

Most studies assume that the demand for labour is perfectly elastic (ie. the demand curve is horizontal). Freebairn (1995), however, considers the possibility that the demand for labour is not infinite (Table 6.14). He uses a preferred elasticity of demand of +0.6 drawn from a study by Russell and Tease (1990). In addition, he also tests a range of demand elasticities, ranging from +0.3 to +1.0, to examine the sensitivity of his findings.

These studies yield preferred estimates of the marginal excess burden of *income tax* in the range 0 to 65 cents per dollar raised in tax revenue, with most estimates lying in the range of 20 to 30 cents (Table 6.15). The sensitivity tests indicate that the marginal excess burden could be as high as \$1.60 per dollar of revenue raised.

The mid-range and higher estimates come from studies that assume a perfectly elastic demand for labour, and hence may be relevant for considering the deadweight losses of taxing a particular individual. Freebairn (1995) argues that when examining the deadweight losses of taxing an entire labour market, it is more appropriate to recognise a less than infinite wage responsiveness of labour demand. Once this is recognised, his marginal excess burden estimates fall to between 4 and 8 cents per dollar of revenue raised. In labour markets where there is significant unemployment, he argues the deadweight loss can fall to zero.

Table 6.14: Compensated own-price elasticity of labour demand with respect to real wages, Australia^a

<i>Study</i>	<i>Year</i>	<i>Type of study</i>	<i>Compensated elasticity</i>
Freebairn (1977)	1970s	Survey of literature	-0.5
Johnston, Campbell & Simes (1978) ^b	1965–77	Econometric estimate	nss
Dixon, Parmenter & Sutton (1978)	1970s	GE model (ORANI)	-0.5
Commonwealth Treasury (1981)	1967–79	GE model (NIF10)	-0.3
Challen (1984)	ns	Econometric estimate	-0.3
Lewis (1985)	ns	Econometric estimate	-0.8
Symons (1985)	1980s	Econometric estimate	-0.75 to -1.07
Phipps (1983)	1962–82	Econometric estimate	-0.25
Pissarides (1987)	1966–86	Econometric estimate	-0.79
EPAC (1988)	1986–87	Econometric estimate	-0.75
EPAC (1988)	1986–87 to 1991–92	GE models (various)	-0.3 to -1.4 (average -0.68)
Lewis & Kirby (1988)	na	Econometric estimate	-0.8
Russell & Tease (1990)	1969–74	Econometric estimate	short run: -0.09 long run: -0.63
PMC (1993)	na	Econometric estimate	-0.75
OECD (1994)	1971–92	Econometric estimate	-1.0
Stacey & Downes (1995)	1971–95	GE model (TRYM)	long run: -0.84
Commonwealth Treasury (1996)	1971–95	GE model (TRYM)	long run: -0.79
Lewis & Seltzer (1996)	various	Survey of literature	-0.6 to -0.8

Numbers in parentheses denote range of sensitivity tests.

a As measured by total employment.

b Dependent variable used was unemployment, as opposed to total employment.

Sources: Russell and Tease (1990), Lewis and Seltzer (1996, pp. 40–41), Stacey and Downes (1995) and PMC (1993, p. 54).

Table 6.15: Marginal excess burden of income tax, Australia

<i>Study</i>	<i>Year</i>	<i>Compensated elasticity of:</i>		<i>Marginal excess burden</i>
		<i>Demand</i>	<i>Supply</i>	
Findlay & Jones (1982)	1978–79	∞	+0.2 (+0.1 to +0.4)	+0.23 to +0.65 (+0.11 to +1.60)
Freebairn (1995)	1993	-0.6 (-0.3 to -1.0)	+0.2 (+0.1)	0 to +0.287 (0 to +0.727)
Campbell & Bond (1997)	1988–89	∞	+0.1408 (-0.08 to +0.48)	+0.24 (+0.07 to +1.36)

Numbers in parentheses denote range of sensitivity tests.

Sources: Findlay and Jones (1982), Freebairn (1995) and Campbell and Bond (1997).

Freebairn's estimates of the marginal excess burden, and even mid-range estimates from the other studies, suggest that a tax on labour income is likely to be one of the more efficient taxes used in Australia. However, whether these studies give an accurate picture of the marginal excess burden of *payroll tax* depends on several factors.

The elasticity estimates presented in Table 6.13 and Table 6.14 suggest that *payroll tax* may impose greater efficiency losses when levied on adult female and youth workers, as their labour supply is more responsive than adult males. However, female workers are more likely to be employed by small businesses, which are generally exempt from *payroll tax* (ABS 1321.0, p. 12, Revesz and Lattimore 1997, p. 113). Further, although the data are a little unreliable, they suggest that casual part-time employment tends to decline with firm size, although the differences are becoming less marked over time (Revesz and Lattimore 1997, pp. 8–9 and 135). On the other hand, permanent part-time employment increases with firm size (Revesz and Lattimore 1997, p. 135). There is insufficient data to undertake a rigorous overall assessment of the effects of *payroll tax* on labour supply. The anecdotal evidence suggests that *payroll tax* is currently less likely to distort the choices of adult females and youth workers than the elasticities would suggest. However, a *comprehensive payroll tax* would likely impose efficiency costs closer to those of a tax on labour income.

Another problem with the above studies of *income tax* is that, with the exception of Findlay and Jones (1982), they fail to take into account *payroll tax* as an additional tax on income, thereby understating the size of the initial tax wedge. Ordinarily, this would bias estimates of the marginal excess burden downwards, as the marginal deadweight loss generally increases with the size of the tax wedge. Yet in the case of Campbell and Bond (1997), the base used in

their calculations overstates the size of labour income as it includes non-labour incomes, thereby creating a countervailing bias.

The marginal excess burden of State *payroll tax* has been calculated directly in this paper, taking as given the existence of Commonwealth taxes on labour income. In making the calculations, an own-price elasticity of demand for labour equal to -0.7 has been used, the middle of the range of estimates reported in Lewis and Seltzer (1996) consistent with the estimates from the econometric literature (Table 6.14), while a compensated own-price elasticity of labour supply of 0.14 has been used, the same as in Campbell and Bond (1997).²²

The estimated marginal excess burdens (MXSBs) of *payroll tax* are reported in Table 4.2 of Chapter 4. The estimates are in the range of 3 to 12 cents per dollar of revenue raised. The higher estimates occur where *payroll tax* falls on earnings that already attract the top marginal rate of *income tax*. Assuming a Commonwealth tax rate of 48.5 per cent (including the Medicare levy), the MXSB of raising an additional dollar of tax revenue through *payroll tax* ranges from 9 cents for those currently exempt, to 12 cents for those already subject to the tax.²³ Lower estimates are obtained when the relevant pre-existing marginal *income tax* rate is lower. The estimates are similar to those obtained by Freebairn for *income tax* when he assumes a less than perfectly elastic labour demand.

These estimates of the MXSB of *payroll tax* levied in the presence of Commonwealth *income tax* are considerably lower than those obtained by both Findlay and Jones (1982) and Campbell and Bond (1997) for *income tax*. The latter two studies assume an infinitely elastic labour demand, whereas this paper uses an econometrically-based labour demand elasticity of -0.7. A second difference is that this paper considers the effect of raising an extra dollar of revenue through State taxes, not State and Commonwealth taxes combined. Differences also arise in the choice of other parameters. The top statutory *income tax* rate today is considerably lower than when Findlay and Jones did their study (48.5 compared with 61.5 per cent). The elasticity of labour supply used here (+0.14) is slightly lower than that used by Findlay and Jones (+0.2).

²² Note that, because the labour market is an input market rather than an output market, the roles of individuals and firms are reversed. For this reason, it is necessary to distinguish between compensated and uncompensated supply elasticities, rather than demand elasticities.

²³ The MXSB is the same (rounded to the nearest cent) for those just above the *payroll tax* threshold and those on the top statutory tax rate.

Table 6.16: Reconciling estimates of the MXSB of income taxation, Australia^{ab}

<i>Parameter changed</i>	<i>Value</i>	<i>This model</i>	<i>Findlay & Jones^c</i>
This model (as per Appendix B)	$\varepsilon_D = -0.70$	12	na
An extra dollar of State and Commonwealth tax revenue combined	na	16	na
Horizontal demand curve	$\varepsilon_D = -\infty$	20	20
Elasticity of supply	$\varepsilon_S = +0.20$	32	32
Findlay & Jones's tax rate	$m = 0.615^d$	47	47

a The starting point for this exercise is *payroll tax* at the top statutory rate of 0.0625 with an *income tax* rate of 0.485, an elasticity of demand of -0.70 and an elasticity of supply of 0.14. The base case results are shown in the first line of this table.

b Each parameter is changed sequentially taking the previous changes as given.

c Calculated using the formula $MXSB = \frac{m\varepsilon_s}{1 - m(1 + \varepsilon_s)}$ outlined in Findlay and Jones (1982, p. 256).

d The tax rate expressed as a share of purchaser prices. The tax rate was converted to 'producer' prices using the methodology outlined in Appendix B.

Source: Estimates by the authors based on Findlay and Jones (1982, p. 256).

To highlight the effect of these various differences between the two estimates, Table 6.16 demonstrates the effect of gradually relaxing various assumptions on the MXSB using the current model and that of Findlay and Jones. The reconciliation indicates that the MXSB is most sensitive to the statutory tax rate and the elasticity of supply chosen.

The estimated MSXB calculated here is also considerably lower than that estimated in a general equilibrium context by Han (1996). One reason is that Han uses higher estimates of the key behavioural parameters than are adopted in this paper. Another, more important, reason is that when Han raises an additional dollar of revenue by increasing the payroll tax rate on the non-exempt sector (the non-government sector in his model), he assumes perfect mobility of labour to and from the exempt sector. In contrast, this paper, by using economy-wide labour supply elasticities for the exempt and non-exempt sectors separately, implicitly assumes no mobility of labour between the exempt and non-exempt sectors. While the extent of mobility is likely to be a lot lower than assumed by Han, because of the skill differentials identified earlier, his paper identifies an additional source of inefficiency associated with the payroll tax exemptions.²⁴ A further source of inefficiency, not quantified in either

²⁴ However, by assuming fixed capital stocks, his model is not well-placed to provide a plausible ranking of the relative efficiencies of various taxes in the longer term.

study, is the potential for unrealised economies of scale from encouraging some firms to remain artificially small.

The efficiency loss calculated here for *payroll tax* is lower than for most other State taxes (Chapter 4). The loss is considerably higher than for *taxes on land* and the maximum efficiency loss is comparable to the lower estimates for some of the *franchise fees*. Nevertheless, *payroll tax* is considerably more efficient than the *franchise fees* on tobacco and spirits.

The estimates indicate that the MXSB is slightly lower if the additional revenue is raised by broadening the tax base instead of by raising the statutory tax rate. These efficiency gains associated with a broadening of the tax base would have to be weighed up against the additional administration and compliance costs and the possibility that, as the base is broadened, *payroll tax* may affect more heavily those with more elastic labour supply. The estimates of MXSB, however, indicate that a key determinant of the efficiency loss of *payroll tax* is the level of the underlying rate of *income tax*. Nevertheless, the low MXSBs associated with levying *payroll tax* on those subject to lower rates of *income tax* should not be construed as suggesting that the States should target *payroll tax* towards those on lower rates of *income tax*, because to do so would undermine the redistributive effect of the Commonwealth *income tax* system.

Equity

Equity is typically assessed from the perspective of individuals (eg. Warren 1988, Freebairn 1993, 1997a, and Pender 1997). Some studies, however, look at the effects from the perspective of companies, on the grounds that the ability to pay differs between companies. E-Law (1993), for example, used such an approach to find that *payroll tax* in Western Australia was inequitable. This approach does not take into account the ultimate incidence of the tax and overlooks the social welfare concern underpinning the equity criterion. Individuals ultimately own companies, whether directly or indirectly through the shares they and their superannuation funds hold. Thus, the economic incidence on companies, and therefore the effect on equity, may bear little resemblance to the impact on individuals. In light of this, this paper assesses the equity from the perspective of individuals and not companies.

While the legal incidence of *payroll tax* falls on employers — they are legally required to pay the tax to the State government — the economic incidence may differ substantially from the economic incidence of the tax, which may fall upon:

- employers through lower profits;
- employees through lower wages and/or unemployment;

- owners of other factors of production through lower factor prices; and/or
- consumers (both domestic and foreign) through higher product prices.²⁵

The degree to which this occurs depends on the conditions prevailing in the relevant markets. Technically, it depends on the elasticities of demand and supply in the various markets and the relevant substitution elasticities.

The NSW Tax Task Force commissioned Dr Neil Warren from the University of New South Wales to undertake a study of the incidence of taxes in New South Wales (Warren 1988). Warren's analysis indicates that *payroll tax* is likely to have a progressive effect if it falls entirely on labour income or on owners of capital. Under these conditions, *payroll tax* will impact more heavily on higher income earners, as they receive a higher proportion of their income from these sources than do low income earners. However, to the extent that it is passed on to consumers through higher prices, the effects are more likely to be regressive. Low income earners spend a higher proportion of their income on consumption than do those on higher incomes. More recent figures indicate that the distributional properties underlying his analysis still hold (ABS 6523.0).

Warren concluded that *payroll tax* falls entirely on employers in the short run, but in the long run it falls on employees and consumers, both inside and outside New South Wales.²⁶ He thought that in the long run:

... the most plausible (outcome) is that the (economic) incidence of *payroll tax* is 50% on wage and salary earners and 50% on consumers. (NSW Tax Task Force 1988, p. 79)

On the basis of this, the NSW Tax Task Force concluded that the incidence of New South Wales *payroll tax* on New South Wales taxpayers was 'broadly proportional' (NSW Tax Task Force 1988, p. 79). That is, it tended to impact equally on all income groups.

One drawback with this approach is that it abstracts from offsetting budgetary changes. Any change to *payroll tax* that resulted in less revenue being raised would affect the capacity of the States to provide their pre-tax level of services. Unless offset by an increase in revenue from another source (such as another tax or through government borrowing), a change in government expenditure would need to occur (whether it be in the area of health, education, roads, public transport, law and order, recreation and cultural events, or economic and social infrastructure). These offsetting changes would have their own equity

²⁵ Other indirect equity effects are also possible. For example, payments of *payroll tax* impact on Commonwealth taxpayers as they are an allowable company tax deduction.

²⁶ The effects of *payroll tax* in one particular State can be passed on (or 'exported') to consumers of other States through higher product prices.

implications. Freebairn (1993) and IC (1996b) highlight the importance of considering the accompanying policy responses. Since this paper is examining revenue-neutral changes in the State tax mix, it ignores these wider effects, focusing on the direct impact of the taxes upon equity.

In assessing *Fightback*, Freebairn (1993) found that the long-run expansionary effects associated with abolishing *payroll tax* are largely offset by the contractionary effects associated with the introduction of a GST.²⁷ Short-term transitional differences may occur, but, given plausible incidence assumptions, are likely to be small. With respect to the equity effects of *payroll tax* alone, Freebairn accepts Warren's finding that the vertical effects are close to being proportional and highlights some horizontal inequity associated with a narrow tax base (as some forms of payroll are exempt from *payroll tax*) and variability in effective rates of taxation. He concludes that a *payroll tax*-GST swap would improve horizontal equity and have a negligible effect on vertical equity (although this result may be sensitive to the scope of the GST adopted).

An important equity consideration is whether, as a tax on the value of employment, *payroll tax* causes unemployment, as is often widely argued in the popular press. Freebairn (1993) summarises this view:

Arguments in favour of reducing or eliminating payroll taxes as a means of stimulating employment and reducing unemployment have to have in mind a short-run disequilibrium situation in which real labour costs are too high and that reducing labour costs will increase employment. (Freebairn 1993, p. 106)

In both the short and long term, the critical factor that will determine the extent of any unemployment is the degree of flexibility in the labour market, including wage flexibility. Yet, the factors that determine this flexibility are totally unrelated to *payroll tax* and have more to do with the institutional arrangement governing the operations of the labour market.

Nevertheless, a number of studies have considered the short-term employment effects of *payroll tax*, under the assumption of real wage stickiness. Using an early version of the ORANI model, Chapman and Vincent (1985) found that the abolition of *payroll tax*, accompanied by an implicit cut in government expenditure, would increase labour demand in the short run by between 1.9 and 2.5 per cent. In two later papers (1986, 1987), Chapman and Vincent found that replacing *payroll tax* with an *income tax surcharge*, so that total revenue remained unchanged, would create the equivalent of 175 000 extra jobs in the

²⁷ Constitutionally, the States are prevented under section 90 from levying a GST of the type considered by Freebairn. Nevertheless, as noted earlier, Freebairn highlights the close symmetry between the two taxes. Thus, the States could use *payroll tax* as a de facto *consumption tax*.

short term. A number of studies (Ryan 1995, p. 5; Albon 1997a, pp. 280–281), however, highlight the inconsistent way Chapman and Vincent modelled the abolition of *payroll tax* and the increase in *income tax*. Ryan states that:

... they [Chapman and Vincent] appear to have modelled the effects of a real wage cut, rather than a payroll tax cut per se, because of their assumption that the removal of payroll tax lowers total labour costs while an increase in PAYE taxation has *no* impact on labour costs. (Ryan 1995, p. 5)

In addition, Albon (1997a, pp. 280–281) advances a theoretical argument as to why these employment effects should be small, with the expansionary employment effects of removing *payroll tax* being offset by the contractionary effects of the *income tax surcharge*.

Crowe (1996) found that a restructuring of the *payroll tax* system in New South Wales — broadening the tax base and lowering the rate of taxation — would also boost employment in the short term by 1 700 jobs, concentrated in the *mining, public utilities and finance* industries.

Freebairn (1993, p. 109), however, argued that the short-term employment effects should be minimal, if *payroll tax* were replaced with an equal-revenue GST.

While the employment effects of a *payroll tax* should, in theory, be broadly similar to that of a *labour income tax* and a *consumption tax*, it is claimed that they may not be in practice owing to the perceived differences between the taxes:

The simple fact that employers regard the tax as bad, irrespective of the validity of the argument underlying this view, may have a detrimental effect on business confidence and investment and may in itself be justification for reducing reliance on this form of tax. (Campbell 1985, p. 9)

It is difficult to believe this effect, given the length of time that *payroll tax* has been in place.

On the basis of brief qualitative assessments, a number of studies on *payroll tax* concluded that *payroll tax* had quite adverse employment effects (eg. BIE 1985, Campbell 1985, E-Law 1993). These studies did not, however, substantiate their assessments with empirical data.

In considering whether general tax reform can increase employment, Freebairn came to the conclusion:

Wishes and claims that tax reform can be used as an instrument for increasing employment and reducing unemployment have dubious merit. In an aggregate revenue neutral context, to reduce one form of tax, say on labour, requires increases in other taxes, for example capital or expenditure. Then, for example, the suggestion that reductions in payroll tax or of PAYE tax would lead to lower

employer labour costs and increased employment is only one part of the story. If a higher expenditure tax is used to fund the payroll or PAYE tax reduction, employees would seek a compensating pre-tax wage rise and recall that tax reform is about longer term structural changes and where asymmetrical money illusion effects would be minimal. Alternatively, if the revenue shortfall is to be funded by higher taxation of capital, certainly there would be favourable labour for capital substitution effects, but there would also be unfavourable scale effects as the overall level of saving and investment is reduced. (Freebairn 1997b, p21)

Thus the employment effects of a given tax depend not only on the degree of labour market flexibility, but also on the taxation or spending alternatives.

Compliance costs

Compliance costs represent those costs incurred by employers in meeting their *payroll tax* obligations. From an economic perspective, what matters are those compliance costs that would not have been incurred anyway (called marginal compliance costs). Some of the costs, such as computerised payroll systems, would, in all likelihood, have been incurred anyway as part of normal management functions and, therefore, should not be viewed as a compliance cost.²⁸

There have been only a limited number of studies looking at the compliance costs of *payroll tax*. Owing to a range of methodological considerations, their findings should be viewed cautiously. In addition, most studies do not make it clear whether they are measuring total or marginal compliance and, to the extent that they measure total costs, they will overstate the true cost involved.

Pope, Fayle and Chen (1993) estimated that the total cost of complying with *payroll tax* in Australia was \$206 million, or 3.6 per cent of the revenue raised, considerably lower than the compliance costs of Commonwealth taxes studied in an another paper (Pope 1994).²⁹ They found that compliance costs, both per employee (not shown) and as a proportion of tax paid, tended to be regressive — that is, they both decline as the amount of *payroll tax* paid increases. However, the absolute compliance cost increases, especially for firms paying more than \$5 million in *payroll tax* (Table 6.17).

²⁸ For a more detailed discussion of the conceptual issues associated with compliance costs, see Rimmer and Wilson (1996).

²⁹ This figure of \$206 million differs from that reported in Table 6.17 as it includes the ACT and the Northern Territory.

Table 6.17: Payroll tax compliance costs, Australia, 1989–90^a

<i>Annual payroll tax paid</i>	<i>Mean total cost per firm</i>	<i>Total compliance costs</i>		<i>Total tax paid</i>	<i>Share of tax paid^d</i>
\$	\$	\$ million	Per cent	\$ million	Per cent
1 – 9 999	1 391	27.0	13.3	81	33.3
10 000 – 24 999	2 008	27.5	13.6	236	11.7
25 000 – 49 999	3 377	23.9	11.8	249	9.6
50 000 – 99 999	7 428	44.0	21.7	410	10.7
100 000 – 499 999	5 192	51.6	25.4	1 777	2.9
500 000 – 4 999 999	10 430	14.5	7.1	1 550	0.9
5 000 000 and over	105 261	14.3	7.1	1 291	1.1
Overall	na	202.8	100.0	5 594	3.6

a Excludes the ACT and the Northern Territory.

b *Total compliance costs* as a percentage of *Total tax paid*.

Source: Pope, Fayle and Chen (1993, pp. 93 & 97).

The Queensland Chamber of Commerce and Industry (QCCI 1996) surveyed 152 member companies on the cost of complying with various government regulations, including both Commonwealth and State taxation. It asked users to ‘provide best estimates on the impact of regulations as per the following (types of regulation, including taxes) as they affect your business’ (p. 18). It did not provide users with standardised definitions of what constitutes compliance costs. Therefore, its estimates are more likely to measure total rather than marginal compliance costs. When coupled with the limited explanation of the methodology used (sample selection process, timing of the survey, etc), the results should be treated with a degree of caution.

The QCCI found that *payroll tax* had the highest average compliance costs of all State taxes and was second only to Commonwealth *company tax* (Table 6.18).

Table 6.18: Commonwealth and State tax compliance costs^a

<i>Tax</i>	<i>Jurisdiction</i>	<i>Average cost</i>
Company tax	Commonwealth	\$20 217
Payroll tax	State	\$4 650
Provisional tax	Commonwealth	\$4 513
Sales tax	Commonwealth	\$4 425
Capital gains tax	Commonwealth	\$4 055
Fringe benefits tax	Commonwealth	\$4 041
PAYE tax/group tax	Commonwealth	\$3 659
Superannuation guarantee charge	Commonwealth	\$3 336
Customs & excise tax	Commonwealth	\$1 777
Stamp duty	State	\$1 184
Debits tax	State	\$508

a Based on a survey of 152 companies.

Source: QCCI (1996, p. 4).

The survey found that Queensland firms spend on average \$4 650 in complying with the tax and spent on average 43 hours doing so (Table 6.19). Average compliance costs increased with firm size, while the time spent declined for firms employing more than 5 employees. Average compliance costs were highest for *manufacturing* firms (\$5 716) and lowest for firms engaged in *wholesale trade* and *retail trade* (\$1 375 and \$1 551, respectively). In terms of time spent on compliance, *property & business services* spent longer on average (68 hours) and *manufacturing* the least (27 hours). Twenty per cent of companies sought external advice in meeting their obligations, with accountants being the main source of advice (92 per cent).

These Queensland time estimates appear consistent with national estimates for *payroll tax* (Yellow Pages Australia 1996, pp. 20–25). While the national estimates indicate that the administrative burden of *payroll tax* for small businesses is higher than for any other State tax, it is lower than for a number of Commonwealth taxes.

Table 6.19: Payroll tax compliance costs, by firm size^{ab}

<i>Employment size</i>	<i>Average cost</i>	<i>Hours spent on compliance</i>
Up to 5 employees	\$2 781	13
6 to 20 employees	\$2 725	72
21 to 100 employees	\$5 116	47
Over 100 employees	\$5 018	27
Average	\$4 650	43

a Based on a survey of 152 companies.

b Note that, as Queensland had a tax-free threshold in 1996 of \$750 000, firms employing up to five employees would have to be part of a group or have an average annual payroll of *at least* \$150 000 per employee per year in order to pay *payroll tax*. For firms employing 20 employees, the corresponding figure would be \$37 500.

Source: QCCI (1996, p. 26).

On the basis of qualitative information, the NSW Tax Task Force concluded that ‘compliance costs for *payroll tax* appear to be low’ given that the records required ‘would normally be generated by any business from PAYE records’ (NSW Tax Task Force 1988, p. 9). The report also highlighted that legislative changes taking effect midway through a financial year and differences (that then existed) between States (in this case, Victoria) increased compliance costs.

There appear to be economies of scale in complying with *payroll tax*. Pope, Fayle and Chen (1993) and QCCI (1996) show that the absolute cost of complying with *payroll tax* increases with firm size, but decreases as a proportion of revenue raised and per employee. It is not clear, however, whether it is possible to extrapolate their results to small businesses that are currently exempt from the tax. Crowe (1996) argued that ‘extending the *payroll tax* base to include small firms ... is likely to significantly increase compliance costs as a proportion of *payroll tax* revenue’ (p. 8). While this may be true for very small firms (at least as a share of revenue collected), it is not clear whether this will be the case for all small businesses that are currently exempt. This issue is addressed in the next section.

Clawback systems add to the complexity involved. A *single marginal rate scheme* is easier for taxpayers to understand and simpler to comply with.

The Small Business Deregulation Task Force received a number of submissions raising concerns about the complexity of *payroll tax*. A number of submissions called for harmonisation across States, particularly for the adoption of a common base, definition of employee and an alignment of administrative

arrangements. The Task Force strongly supported a joint review currently under way into aspects of *payroll tax* (SBDTF 1996, p. 44).³⁰

There are good reasons to expect the compliance costs associated with *payroll tax* are likely to be higher, possibly even considerably higher, than most other State taxes. First, *payroll tax* is payable more frequently than most State taxes, which tend to be annual or on an irregular basis. Most *payroll tax* returns have to be completed on a monthly basis, which is likely to be more onerous for smaller businesses subject to the tax. Second, returns have to be lodged within seven days of the end of the assessment period, giving taxpayers little time to collate and process the necessary information, and extensions are seldom granted (Queensland Office of State Revenue 1997d). This is likely to be a bigger issue where companies' affairs are more complicated (eg. groups) or for smaller businesses. Some State tax offices (eg. Western Australia) simplify this process somewhat by calculating an *allowable deduction*, based on their expected wages, for groups for use in their monthly returns. A subsequent adjustment is made by the State tax office in the annual reconciliation to reflect differences between monthly and annual outcomes. However, this may increase administration costs. Estimates can be provided, if the actual figures are unavailable. Finally, the data needed to complete the returns are likely to be in a different form from what would otherwise be kept. The definition of a payroll for tax purposes may not accord with definitions used by most firms. In addition, firms operating in more than one State may not otherwise have differentiated their payrolls (as required for *payroll tax* purposes).

This suggests that many of the compliance costs are unlikely to vary significantly with the amount of revenue paid, but rather with the complexity of the firm's financial affairs (eg. being part of a group or operating interstate). This suggests that the marginal compliance costs might be relatively low, but the semi-variable fixed costs might actually be quite high. Once a firm expands interstate, for example, the complexity of its financial affairs and, hence, its compliance costs are likely to jump substantially — it is now required to keep sufficiently disaggregated records and to comply with two different *payroll tax* systems. This suggests that it may be possible to achieve significant savings in compliance costs through greater harmonisation of *payroll tax* systems between States.

One further difficulty with *payroll tax* is uncertainty about what constitutes a payroll for tax purposes. There is uncertainty about what constitutes an employee, and what forms of remuneration should be included. For example,

³⁰ The review involves representatives from New South Wales, Victoria, Queensland, South Australia and the ACT.

some subcontractors are included in the tax base, but others are not. This uncertainty is reflected in a number of the questions frequently directed by taxpayers to the State tax office (Queensland Office of State Revenue 1997d), and is thought to lead to a many employers paying an incorrect amount of tax (E-Law 1993).

Harmonisation of the *payroll tax* bases between States could reduce compliance costs significantly. A standard Australia-wide definition of what constitutes a payroll and how it is measured would make it easier for firms operating interstate to pay *payroll tax* by:

- making it easier for firms to understand;
- reducing the need for external for advice (lawyers, accountants, etc.);
- streamlining the additional records that need to be kept; and
- making it easier to pay the correct amount of *payroll tax*.

This would have the added advantage of reducing administration costs. Ideally, the definitions should be as consistent as possible with those used for other State and Commonwealth taxes.

If the States went one step further and aligned the administrative procedures needed to pay *payroll tax*, further savings in compliance costs could be achieved, even with rates of taxation and tax-free thresholds differing between States. Options include:

- operating one *payroll tax* scheme Australia-wide (eg. a *single marginal rate scheme*, where each State sets the tax rate and the tax-free threshold);
- adopting standard social welfare exemptions;
- adopting standard grouping provisions;
- standardising the tax forms and using the same terminology; and
- standardising the *payroll tax* Acts between States.

Harmonising administrative procedures could enable *payroll tax* to be ‘piggybacked’ on top of another tax (eg. Commonwealth *income tax*), thereby reducing compliance and administrative costs even further.

Compliance costs could also be reduced significantly if the assessment period was extended from each month to, say, each quarter. Likewise, lengthening the period in which firms have to pay the tax from seven days would also help. The arguments for doing so become stronger if the tax base is broadened.

The options suggested so far for reducing compliance costs do not rule out State differentiation of tax rates and tax-free thresholds. Further reductions in compliance costs could be achieved by harmonising these, although at the

expense of State sovereignty. This, therefore, is likely to be considered a lower priority.

Recent initiatives, such as the move towards greater consistency among the various States and the Commonwealth on the treatment of superannuation, indicate that the States are heading in the right direction. The current interstate working group on *payroll tax* reform is an ideal forum to advance the process even further. While State governments need to raise revenue, they should also be cognisant of the costs they impose on taxpayers and seek, wherever possible, to minimise these costs.

Administration costs

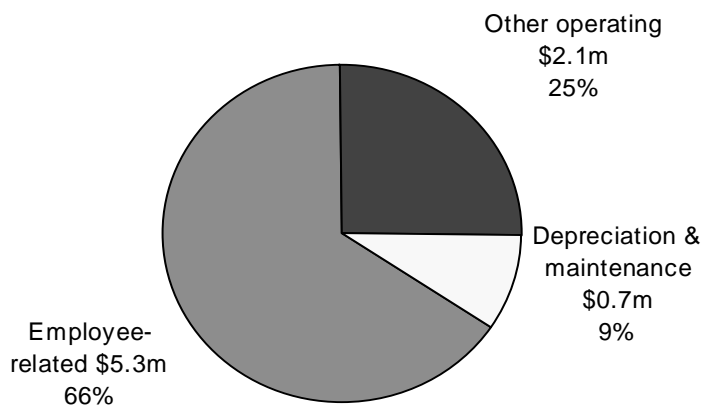
The primary administration costs incurred in collecting *payroll tax* revenue are the costs of processing returns lodged by employers, ensuring that those required to pay *payroll tax* pay the correct amount, and enforcing payment.

It is impossible to ascertain the total cost of administering *payroll tax* in Australia, as New South Wales is the only State to publish the cost of administering individual taxes (or groups of taxes). In 1996–97, New South Wales spent \$8.2 million on administering *payroll tax*, or 0.26 per cent of revenue collected (New South Wales 1997a, p. 3-12; 1997b, p. 664). This is up on the \$7.7 million spent in 1995–96, both absolutely and as a percentage of revenue collections (NSW Office of State Revenue 1995, pp. 53 & 55).

The major administrative cost incurred in collecting *payroll tax* is the cost of the staff employed by the NSW Office of State Revenue. In 1996–97, 109 staff were employed to administer the *payroll tax* program within the NSW Treasury, up from 94 people in 1995–96 and 99 in 1994–95 (New South Wales 1997b, p. 664). Employee-related operating costs accounted for 66 per cent of current operating costs (Figure 6.8).

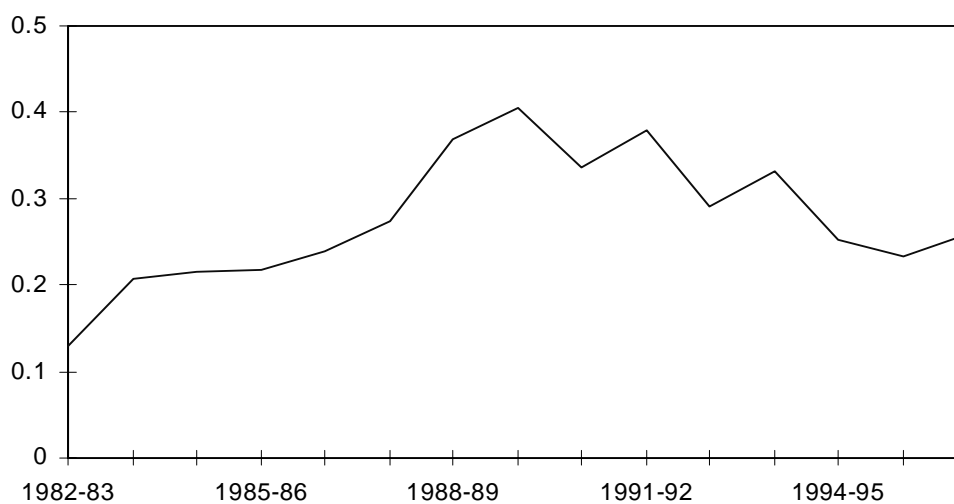
Administration costs as a proportion of revenue raised increased from 1982–83, to peak at \$4 per \$1000 of revenue in 1989–90 (Figure 6.9). They have been steadily declining since then. Administration costs now tend to lie in the range of \$2 to \$4 per \$1 000 of revenue collected (0.2 to 0.4 per cent). This makes *payroll tax* one of the cheapest State taxes to administer.

Figure 6.8: Administration costs, payroll tax, New South Wales, 1996–97



Source: New South Wales (1997b, p. 664).

Figure 6.9: Administration costs, payroll tax, New South Wales, 1982–83 to 1996–97 (percentage of revenue collected)



Sources: New South Wales (1997b, p. 664), NSW Office of State Revenue (1988 to 1996), NSW Department of Finance (1987) and NSW Tax Task Force (1988, p. 9).

The NSW Tax Task Force (1988, p. 94) deemed the cost of collecting *payroll tax* to be ‘satisfactory’, as it fell below the arbitrary 5 per cent of revenue collected figure set by the Victorian Committee of Inquiry into Revenue Raising (VCIRR 1983). Administration costs are still far below this benchmark.

The low administration costs can, in part, be attributed to the small number of firms paying *payroll tax*. In 1993–94, only 7.6 per cent of private sector firms in New South Wales paid the tax (Table 6.5).

One rationale for having a tax-free threshold is provided by administration and compliance costs (Crowe 1996, p. 8). The marginal excess burdens which are estimated in this paper do not take account of the resources used in administering and complying with taxes.³¹ However, at some point, obtaining an additional dollar of revenue by lowering the tax-free threshold may waste more resources in administration and compliance costs than it saves in efficiency costs. In order to ascertain whether this is the case, it is necessary to know how administration and compliance costs change with firm size. Unfortunately, such estimates do not exist, especially for firms of currently exempt size.

For a firm operating just below the threshold, the States are forgoing between \$26 000 (Northern Territory) and \$54 800 (ACT) in tax revenue per year (Table 6.20). If compliance costs for such a firm are of the order indicated in Table 6.17 and Table 6.19 (say, approximately \$5 000 per firm per year), then administration costs would have to be in the order of \$21 000 to \$49 800 per firm to justify the thresholds at their current levels. This seems excessive. As a result, it appears that the current level of tax-free thresholds cannot be justified wholly on the grounds of administration and compliance costs.³² This suggests that there is scope for the States to lower the tax-free thresholds and broaden the taxpaying base. Previous discussion has suggested that there would be significant economic efficiency gains from doing so.

³¹ Ideally, administration and compliance costs should be incorporated in the MXSB calculation. Such an approach is not, however, possible without detailed knowledge of how these costs vary between different categories of actual and potential taxpayers.

³² A more appropriate criterion would be to compare the increased administration costs with the efficiency cost savings from being able to reduce tax rates on more inefficient taxes elsewhere. However, the administration cost/revenue tradeoff has been used by Crowe (1996) to justify having the *payroll tax* thresholds at their current levels.

Table 6.20: Payroll tax revenue forgone for a firm at the tax-free threshold, 1 January 1998

<i>State</i>	<i>Rate at margin</i>	<i>Tax-free threshold</i>	<i>Revenue forgone</i>
	per cent	\$	\$
New South Wales	6.85	600 000	41 100
Victoria	6.25	515 000	32 188
Queensland	5.00	850 000	42 500
Western Australia	4.87 ^a	675 000	32 873
South Australia	6.00	456 000	27 360
Tasmania	6.60	600 000	39 600
Australian Capital Territory	6.85	800 000	54 800
Northern Territory	5.00	520 000	26 000

a Including effects of clawback arrangements.

Sources: NSW Treasury (1998, p. 9) and State Budget Papers (various).

Administration costs are likely to rise as the number of firms subject to *payroll tax* increases. However, as many of the costs are fixed and do not vary with the number of taxpayers (eg. the cost of computer systems), average administration costs are likely to decline as the number of taxpayers increases. Broadening the base may, therefore, decrease per unit collection costs.

The use of grouping provisions, whereby related companies are added together for *payroll tax* purposes, undoubtedly increases both administration and compliance costs, but for as long as tax-free thresholds exist they will continue to be unavoidable. There may be, however, scope to make the process more efficient.

Stability of tax base

Governments favour taxes whose base is relatively stable throughout the various stages of the economic cycle. This gives them some surety in funding essential services (such as law and order, education and public hospitals) as the State grows.

The NSW Tax Task Force (1988, pp. 114–117) found that, over the long term, a one per cent change in gross state product (State income) led to a 1.06 per cent change in *payroll tax* revenue. This suggests that the *payroll tax* is a stable tax over the longer term, although subject to short-term variations.

The presence of a tax-free threshold means that the growth in the tax base may be less reflective of growth in the economy as a whole. The absence of a

threshold would mean that revenue growth would be more in line with general economic growth.

6.3 Where to from here?

Reforming the administrative arrangements

The present *payroll tax* arrangements differ considerably between States and unnecessarily increase the cost of doing business nationally. Greater harmonisation in the *payroll tax* schemes between States would lower compliance costs significantly. The States should give serious consideration to harmonising *payroll tax* with uniform definitions and exemptions. Similar administration and compliance procedures would also substantially reduce costs. If the States wish to compete on *payroll tax*, they should restrict the competition to differences in the rate of taxation.

The States could also reduce the frequency of monthly *payroll tax* payments to reduce the high compliance costs associated with the tax. The States could collect the tax every second month, every quarter or once a year. Business would still be required to pay the same amount of tax, only on a less frequent basis.

Queensland and the Northern Territory could expand their *payroll tax* bases to include employer superannuation contributions. Although substantial additional work would still be needed to standardise the definition of *payroll* between States, such a move would be a major first step. The States could also ensure that their definitions of superannuation were identical to that used by the Commonwealth.

As an interim measure, Western Australia and the Northern Territory could consider simplifying their complicated *clawback schemes*, by either moving to a *single marginal rate scheme* (as in New South Wales) or by employing a simpler *clawback scheme* (as in Queensland). With harmonisation, each State should eventually employ the same *payroll tax* scheme.

Potential for payroll tax to replace other State taxes

In its current form, *payroll tax* is one of the broadest and one of the more efficient taxes used by the States. Thus, it is also a candidate to be used to recover revenue lost elsewhere.

The efficiency cost estimates suggest that base-broadening measures would be preferable to raising *payroll tax* rates. Currently, only 8 per cent of firms pay *payroll tax*. The current tax-free thresholds cannot be justified on the grounds

that the revenue forgone is fully offset by avoided administration and compliance costs. Some form of threshold may be justified on these grounds, but it would be lower than the current threshold. The efficiency costs estimated earlier suggest that *payroll tax* rates could even be raised slightly to replace revenue forgone on other taxes, while still allowing an improvement in overall efficiency.

Potential for replacing payroll tax

Ultimately, the States may wish to consider replacing *payroll tax* with either a *State-based income tax surcharge* or, if they could gain access to it, a share of any Commonwealth VAT. An *income tax surcharge* would be superior to *payroll tax* as it would remove the bias against labour income (*payroll tax* does not apply to capital income). There is no Constitutional restriction on such an *income tax surcharge* at the moment (Appendix A). It would also improve equity by attaching tax-free thresholds to individuals rather than enterprises.

Table 6.21: Summary of State payroll tax arrangements, as at 1 January 1998

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Scheme employed	single marginal rate	single marginal rate	single marginal rate (with clawback)	marginal rates (with clawback)	single marginal rate	single marginal rate ^a	single marginal rate	average rates (with clawback)
Rate of taxation (on largest payrolls)	6.85% ^b	6.25%	5%	5.56% ^c	6%	6.60% ^d	6.85%	7% ^e
Tax-free threshold	\$600 000	\$515 000	\$850 000 ^f	\$675 000	\$456 000	\$600 000	\$800 000 ^g	\$520 000
Upper taper limit	na	na	\$3 400 000 ^h	\$2 700 000	na	na	na	\$1 300 000
Clawback rate	na	na	\$1 for every \$3 over threshold	\$1 for every \$3 over threshold	na	na	na	\$2 for every \$3 over threshold
<i>Included in tax base:</i>								
Fringe benefits	yes	yes	yes	yes	yes	yes	yes	yes
Accrued leave ⁱ	yes	no	no	no	no	yes	yes	no
Superannuation	yes	yes	no	yes	yes	yes	yes	no
<i>Key general exemptions:^j</i>								
Apprentices & trainees	yes	yes	via rebate	yes	yes	yes	yes	yes
Benevolent institutions	yes	yes	yes	yes	yes	yes	yes	yes
Education (non-profit, secondary and below)	yes	yes	yes	yes	yes	yes	yes	yes
Film industry	no	no	via rebate	no	yes	no	no	no
Local government	yes	yes	yes	yes	yes	yes	na	yes

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Long term unemployed	no	no	no	no	no	no	yes	no

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Non-profit/public hospitals	yes	yes	yes	yes	yes	yes	yes	yes
Offshore banking units	no	no	via rebate	no	no	no	no	no
Religious institutions	yes	yes	yes	yes	yes	yes	yes	yes
Regional banking units	no	no	via rebate	no	no	no	no	no
Tax-free threshold	all firms	all firms	some firms	some firms	all firms	all firms	all firms	some firms
Trade development zone	no	no	no	no	no	no	no	yes
Universities	no	no	no	no	yes	no	no	no
<i>Specific exemption schemes (assessed on a case by case basis):</i>								
Regional headquarters	yes	yes	yes	yes	yes	yes	yes	yes
International investment	yes	yes	yes	yes	yes	yes	yes	yes
Regional development	yes	yes	yes	yes	yes	yes	Na	yes

a Replaced the previous *clawback scheme* from 1 July 1997.

b The marginal rate is to be reduced to 6.7 per cent from 1 July 1999.

c Tax rates: \$0–\$675 000, nil; \$675 000–\$2 700 000, 3.65 per cent of excess; \$2 700 000–\$4 500 000, (\$98 550 + 6.025 per cent of excess) divided by wages; \$4 500 000–\$5 625 000, (\$207 000 + 9.4 per cent of excess) divided by wages; over \$5 625 000, 5.56 per cent flat.

d Replaced the previous rate of 7 per cent from 1 July 1997. The Tasmanian government has announced, conditional on the passage of legislation, a further cut in the marginal rate to 6.35 per cent from 1 July 1998.

e Deduction scheme: \$0–\$520 000, nil; \$520 000–\$1 300 000, reduces to nil. Marginal rates component: \$0–\$520 000, nil; \$520 000–\$1 250 000, 5 per cent; \$1 250 000–\$10 000 000, 6 per cent; over \$10 000 000, 7 per cent.

f Increased from \$800 000 on 1 January 1998.

g Increased from \$700 000 on 1 January 1998.

h Upper taper limited increased for \$3 200 000 as from 1 January 1998. Effective taper limited for the 1997–98 financial year is \$3 300 000.

i Lump sum payment of accrued leave on termination.

j As set out in the respective *Payroll Tax Acts* (unless additional information exists to the contrary). Activities may be exempt subject to the discretion of appropriate Minister or Tax Commissioner.

Sources: State Budgets Papers (various), Grants Commission (various), State tax offices (various), *Payroll Tax Act* (various) and NSW Treasury (1998, p.9).

7 TAXES ON LAND

State and local government taxes on land are the single most important area of State taxation. Municipal rates are extremely efficient and raise a substantial amount of revenue. Land tax is relatively less efficient because of current exemptions, raises substantially less revenue, but remains one of the more efficient taxes currently available to the States. Both taxes fall on an important constituent of wealth, and are among the more equitable State taxes. Nevertheless, the States could improve the efficiency of land tax by removing the exemption applying to owner-occupied housing. Such a reform could improve the fairness of land tax as well. In comparison with the ownership-based taxes, conveyancing duty is considerably less efficient and more inequitable, since it applies only to the transfer of land. The States could abolish conveyancing duty and raise the revenue forgone through land tax.

As a group, taxes levied on land are an important source of revenue for State and local governments. In 1995–96, they accounted for 29 per cent of all own-source tax revenue.

Existing taxes on land fall into two broad groups:

- *property taxes* on the ownership of land (*land tax, municipal rates, metropolitan improvement tax, property owners' contribution to fire brigades*); and
- *transaction taxes* on the sale or lease of land (*contracts and conveyancing duty, and lease duty*).

It is not always obvious what to regard as a tax on land. Some financial taxes indirectly are linked to transactions involving land. For example, *mortgage and loan security duty* is payable on loans secured by land. It is not, however, payable on unsecured loans or where cash payment occurs. In this paper, taxes on land cover only those taxes levied explicitly on land. Taxes on the financial arrangements underlying the purchase of land are treated as financial taxes, and are discussed in more detail in Chapter 8.

Local government taxes on land have been included for four important reasons. First, *municipal rates* levied by local government account for half of all (non-Commonwealth) revenue from taxes on land. Second, the State governments have been instrumental in causing local government reliance on *municipal rates*, as the State governments control the range of revenue raising measures at the

disposal of local government. Third, the effects of State taxes on land depend on those levied by local government. Fourth, the existence of *municipal rates* may, to some extent, restrict State governments from reforming land taxation.

At various times, the State (and Commonwealth) governments have levied other forms of land taxation. *Death duties*, for example, taxed the value of land and other assets (net of liabilities) that formed the estate of a deceased person. More recently, the Victorian government introduced a temporary \$100 levy on the ownership of land in 1992–93 (collected by local government) to help reduce State debt (*State deficit levy*) (Parliament of Victoria 1994). The levy was subsequently abolished in 1994 (for the 1995–96 financial year). As these taxes are no longer in existence, they have not been considered in the discussion that follows.

7.1 Overview

How do they operate?

Property taxes are levied on the assessed value of land and are payable by the owner of the land at a particular date(s).¹ Apart from the value of land in its natural state (referred to as the unimproved capital value), the valuation sometimes also includes the value of improvements made to that land, such as clearing and earthworks (collectively referred to as the site value). The value of any buildings and structures erected on top of the land (eg. buildings, fences, windmills) are excluded from the tax base. The valuation method used varies, not only between States, but often within a State as well.

The value of land is periodically assessed (between one and three years) by the Valuers-General in all States, except for Victoria, where assessments are undertaken by local government. These initial assessment may be subsequently adjusted by the Valuer-General to reflect changes in land values that have occurred since the last valuation or, in the case of Victoria, to standardise the assessments between different Local Government Areas. These valuations form the taxable base for all *property taxes*.

Land tax is generally levied on commercial, industrial and non-owner-occupied residential land. It is levied on the value of land owned at a particular date (rather than the owner's equity in that land), except in the ACT, where it is levied on leases of land. In 1996–97, Victoria was the only State to levy *land*

¹ In this paper, the term *property taxes* is used to describe all taxes levied on the ownership of land. It does not include transactions-based taxes on land, which are collectively referred to as *transaction taxes*.

tax on agricultural and occupied residential land.² In December 1997, New South Wales extended *land tax* to cover owner-occupied residential land valued in excess of \$1 million (with the tax-free threshold indexed to the Sydney consumer price index). However, the Victorian Government recently announced a major overhaul of *land tax* to take effect in 1998, including exempting owner-occupied housing from *land tax*, lowering the tax-free threshold from \$200 000 to \$85 000 and abolishing its existing capping provisions (Victorian State Revenue Office 1998, p. 1).³ By contrast, the Northern Territory does not levy *land tax* at all. Crown land is generally exempt from *land tax*, but New South Wales taxes the lessees of crown land. The operation of the tax varies between States, with all States, except the ACT, levying the tax on an annual basis.⁴ The date at which the ownership is determined varies between States (Table 7.21 at the end of this chapter).

Most States employ a progressive rate structure above a tax-free threshold (Table 7.21). Only the ACT does not have a tax-free threshold, while New South Wales levies the tax at a uniform rate on all properties above the threshold. While Victoria notionally taxes residential land currently, the \$200 000 tax-free threshold effectively exempts most residential land. Queensland (with 20 tax brackets) and, to a lesser extent, Tasmania (10 brackets) and Western Australia (7 brackets) have complex rate schedules.⁵ In addition, Queensland has a different tax-free threshold for natural persons (\$200 000) and companies and trustees (\$100 000).

As part of its 1995 election campaign, the Queensland Government signalled its intention to gradually phase out *land tax* over the next 10 years. It went to the election with a policy to:

Reduce Land Tax in the first term and phase out Land Tax in the longer term ensuring Queensland is the lowest tax State in Australia (NPA Queensland 1995, p. 3)

² Prior to 1 July 1996, Tasmania also levied *land tax* on agricultural and owner-occupied residential land.

³ The Victorian Government will introduce legislation into the Victorian Parliament in August 1998 to exempt owner-occupied housing. The legislation will, however, backdate the exemption to 1 January 1998 (Victorian State Revenue Office 1998, p. 1)

⁴ In the ACT, *land tax* is assessed on a quarterly basis (based on the ownership of land as at 1 July, 1 October, 1 January and 1 April). The amount of tax payable is initially calculated on an annualised basis, before being divided into quarterly assessments (based on the number of days in each quarter) (ACT Government 1996b, p.2).

⁵ The Tasmanian government has announced a reduction in the number of tax brackets from 10 to 4 to take effect in two stages in 1998–99 and 1999–2000 (Parliament of Tasmania 1997, pp. 151–152).

This has been subsequently affirmed in the 1996 State Budget (Queensland Government 1996, p. 48).

The existence of tax-free thresholds gives landowners in some States an incentive to subdivide their property into smaller parcels of land to minimise the amount of *land tax* payable. In an attempt to overcome this, the States employ grouping provisions. South Australia and Tasmania levy *land tax* on the aggregate value of land owned by a given legal entity (individual, joint ownership, company, etc). New South Wales, Victoria, Queensland and Western Australia go one step further by aggregating land holdings on the basis of individual ownership — land owned by different legal entities is assigned to the individuals who ultimately own those entities, according to their respective equity share. Owing to the absence of a tax-free threshold, the ACT does not employ grouping provisions. Under the South Australian and Tasmanian approaches, each legal entity is entitled to a tax-free threshold. Thus, the grouping provisions in these States provide landowners with an incentive to split their land holdings across legal entities to benefit from multiple tax-free thresholds and lower marginal rates of taxation. Under the alternative approach used in other States, individuals are entitled to a single tax-free threshold. This eliminates the incentive to split properties across legal entities.⁶

All States employing grouping provisions aggregate the value of land owned *within* their State. They do not, however, take into account ownership of land interstate.⁷ Thus, landowners have an incentive to spread their holdings geographically across States to minimise their *land tax* liability. Of course, a taxpayer has to weigh any tax savings against the additional administrative and legal costs associated with diversification (either interstate or through different legal entities).

In addition to these general *land tax* exemptions, the States often negotiate specific exemptions for individual companies on a case-by-case basis.⁸ These exemptions, together with those applying to *payroll tax*, form the mainstay of State tax inducements to industry (see Chapter 6 for more detailed discussion of

⁶ For example, if an individual owned 50 per cent of ten different properties, each shared with a different partner, they would be entitled to five different thresholds in South Australia or Tasmania, but only one threshold in the other States. The individual may also benefit from lower marginal tax rates in South Australia and Tasmania, as these States employ progressive rate structures.

⁷ This is contrast to the *payroll tax* grouping provisions that adjust the tax-free threshold downwards on a *pro rata* basis to reflect interstate payrolls.

⁸ These exemptions may take the form of tax rebates and may also apply to *conveyancing duty* and certain other stamp duties.

payroll tax exemptions). The States do not, however, publish details on the extent of specific *land tax* exemptions granted — either in aggregate or for individual projects. Nevertheless, the literature distributed by the State governments to prospective investors gives the impression that specific exemptions may be significant, possibly on par with those applying to *payroll tax* (see, for example, the ACT's Business Incentive Scheme, and the various incentives offered by Victorian Department of State Development, the NSW Department of State and Regional Development and the WA Department of Trade and Commerce).

Municipal rates operate in a similar way to *land tax*, except that they are levied by local government.⁹ However, unlike with *land tax*, the marginal rate of taxation is basically the same for all property owners of similarly zoned land (eg. residential, rural, industrial, and commercial). The value-based component may be supplemented by various fixed charges that do not vary with property value to cover the cost of waste disposal, drainage and environmental levies. Local governments set the various rates of taxation within the constraints imposed on them by the State governments (eg. the maximum increase is not to exceed the consumer price index). *Municipal rates* are often perceived, not as a tax, but as a charge for local government services (such as waste disposal, roads, libraries, recreational facilities and, in some cases, water, sewerage and drainage). This perception is not, however, valid as there is no clear nexus between the rates charged to each property owner and their usage of the services provided. Rates should, instead, be viewed as a tax levied by local government.

Contracts and conveyancing duty (henceforth called *conveyancing duty*) is a stamp duty levied on the value of real property (land plus structures and other things, such as, goodwill) purchased. Unlike most other taxes on land, it is a transaction-based tax — duty is only payable when a transfer of ownership occurs. All State governments levy *conveyancing duty* in a broadly similar fashion. All transfers of land are subject to taxation, with very few exceptions. There are no tax-free thresholds, but concessional arrangements do exist for certain home buyers on low incomes.¹⁰ Each State operates a tiered rate structure, with increasing marginal rates of taxation ensuring that the amount of tax paid increases more than proportionately with the transfer value. The number of tiers varies between States. South Australia has the fewest, with only two tiers, while Tasmania and the ACT have the most, with seven tiers. The top marginal rate of taxation varies between States, as does the transfer value at

⁹ In the ACT, they are levied by the Territory Government.

¹⁰ These concessional arrangements cost the ACT Government \$3.12 million in 1995–96 (Commissioner for ACT Revenue 1996, p. 17).

which it applies. Victoria and the Northern Territory apply their top marginal rates to the entire transfer. All other States apply the top marginal rate to the value in excess of the top tier, together with a fixed fee reflecting the cumulative effects of the previous tiers. Payment is due from anywhere between 30 days (Queensland) and up to six months (Western Australia) of the transaction occurring.

Exemptions and concessional arrangements exist for all of these taxes. These are discussed in more detail later on in this chapter, but are summarised in Table 7.1.

There are other taxes on land, but they raise only a relatively small amount of revenue. *Lease duty* is a stamp duty levied by State and Territory governments on the rental value of commercial leases of land (non-residential tenancy agreements). Landowners in Queensland, Tasmania and, to a lesser extent, New South Wales are taxed in order to cover the cost of providing fire brigades (*Property owners' contribution to fire brigades*).¹¹ State governments in Victoria and Western Australia levy a *metropolitan improvement tax* on residents of Melbourne and Perth to fund the provision of services or urban development.¹²

¹¹ This paper follows the ABS (5506.0, 5514.0) practice of classifying these taxes as *taxes on land*, even though New South Wales, for example, levies the tax on insurers, rather than land owners.

¹² In Western Australia this tax is known as the *Metropolitan Region Improvement Tax*. In Victoria, the water distribution companies collect a levy on behalf of the Melbourne Parks and Waterways (a State government, non-budget agency) for the upkeep of the city's parks and waterways.

Table 7.1: General exemptions and concessional arrangements for taxes on land, as at 1 January 1998

<i>Tax on land</i>	<i>General exemptions</i>	<i>Concessional arrangements</i>
Land tax	Owner-occupied housing (except New South Wales) Most agricultural land Commonwealth government Local government Charitable, benevolent, religious, recreational & social purposes Public hospitals & health services Leases (except the ACT)	Pensioners
Conveyancing duty	Chattels (Western Australia) Certain agricultural land	First home buyers Corporate reconstructions Charitable, benevolent, religious, recreational & social purposes Crown leases
Municipal rates	Charitable, benevolent, religious, recreational & social purposes Crown land	Pensioners

Sources: NSW Treasury (1997) and State legislation (various).

In Queensland, the Brisbane City Council levies a similar tax to capture some of the increase in land values that result from specific infrastructure projects.¹³ The ACT usually taxes the increase in land value that occurs when land is rezoned (*betterment tax*). Cumulatively, these taxes and the other very minor taxes not discussed raised only 4 per cent of all revenue from State government taxes on land in 1995–96 (\$364 million) (Table 7.2). Given the number of minor taxes and their lack of importance as a source of revenue, the discussion below focuses on the main three taxes on land — *municipal rates*, *conveyancing duty*, and *land tax*. Given the number of local governments in Australia and the dearth of information about them, it is not possible, however, to cover *municipal rates* in the same detail as the other two taxes.

¹³ The Brisbane City Council actually levies a series of special rates (akin to betterment taxes) on property owners in different parts of the city (Queen Street Mall, Chinatown and Valley Malls, etc) (Brisbane City Council 1996, pp. 452–454).

History

There has been a long tradition of taxing land in Australia by all levels of government — Commonwealth, State and local governments.

The first State taxes relating, at least in part, to land were the now defunct *death duties* (sometimes called probate taxes, or estate inheritance and gift duties). In 1851, New South Wales became the first State to introduce *death duties* as probate and administration fees levied on the value of personal estates (Smith 1993). The other States gradually followed suit. In 1977, Queensland abolished its death duties. By the mid 1980s, all other States and the Federal government had followed suit.

A variety of economic and social reasons, some more plausible than others, have been put forward as to why taxes on land in Australia came into existence (Reece 1992, Smith 1993). Taxes on land were seen as one way of breaking up the large pastoral estates that existed in the colonies in the late 1800s and as a means of achieving greater egalitarianism by taxing wealth. However, Reece (1992) argued that they were primarily introduced for reasons of raising revenue.

Other economic reasons were advocated, mainly based on the work of English economists John Stuart Mill and David Ricardo and championed, for entirely different reasons, by the American social reformer Henry George (Smith 1993). Mill argued that, as land was in fixed supply, a tax on the unimproved value of land could not be shifted to tenants or evaded by leaving land idle, making it a highly efficient tax. The efficiency of land use might also be improved by taxing land as it would penalise speculative holdings.

Reflecting the English tradition, the early *land taxes* in Australia were taxes on the capital, as opposed to the unimproved, value of land (Smith 1993). In 1877, Victoria introduced the first *land tax* in Australia by taxing the sheep carrying capacity of agricultural estates. Tasmania followed suit in 1880.

South Australia was the first State to tax the unimproved value of land in 1884. Other States, including Victoria, followed suit (New South Wales 1895, Western Australia 1907, Tasmania and Victoria 1910, Queensland 1915).

Local government entered the arena of *land taxation* in the 1800s as local government areas came into existence. In 1906, the NSW State Government vacated the field of *land taxation*, leaving it solely to local government. This continued until 1956, when the NSW State Government reintroduced a State-based *land tax* to overcome the revenue shortfalls associated with the loss of *income tax* in 1942. In other States, the powers were conferred on local governments without the withdrawal of the State governments.

In 1910, the Commonwealth Government entered the field by introducing its own *land tax*, making *land tax* the first concurrent tax in Australia. The Commonwealth Government withdrew the tax in 1952 for a variety of reasons, including the high cost of administering it.

The Northern Territory is the only State government not to levy *land tax* — in the Territory, the taxation of land is the sole prerogative of local government. As in the other States, the Territory Government levies *conveyancing duty* on the transfer of land.

Table 7.2: Revenue from State and local government taxes on land, Australia, 1995–96

<i>Tax on land</i>	<i>Jurisdiction</i>	<i>Type of tax on land</i>	<i>Revenue</i>	<i>Share</i>
			\$ million	Per cent
Municipal rates	Local	Ownership	5 197	51.1
Conveyancing duty ^a	State	Transfer	3 110	30.6
Land tax	State	Ownership	1 483	14.6
Property owners' contribution to fire brigades	State	Ownership	145	1.4
Metropolitan improvement tax	State & local	Ownership	97	1.0
Lease duty ^a	State	Leasing	80	0.8
Other ^b	State	Various	42	0.5
Total taxes on land			10 163	100.0

a Both *conveyancing duty* and *lease duty* are levied as stamp duties.

b Other includes ad hoc taxes levied on property (eg. control of vermin and noxious weeds).

Source: ABS 5506.0.

Importance as a source of revenue

Taxes on land have always been, and continue to be, an important source of revenue for State and local governments. Collectively, taxes on land raised \$10 billion in revenue in 1995–96 (Table 7.2). *Municipal rates* alone generated over \$5 billion, or 51 per cent of all revenue raised from taxes on land. *Conveyancing duty* and *land tax* together accounted for the bulk of the remaining revenue. All other taxes on land between them raised \$373 million dollars (or 3.7 per cent of total revenue from taxes on land). A more detailed breakdown is provided by State in Table 7.20.

The overall importance of taxes on land varies considerably between States

(Table 7.3 and Figure 7.1), primarily reflecting differences in State, as opposed to local, government taxation (Table 7.4). Residents of New South Wales paid more in taxes on land in 1995–96 than did residents of any other State (\$593 per person) reflecting the importance of both State and local government taxes (Table 7.4). Victorians paid the next highest taxes on land, at \$568 per person. In part, this reflects abnormally high receipts of *conveyancing duty* associated with the privatisation of the electricity generation sector. If the \$270 million raised from the privatisation process is excluded (Grants Commission 1997b), the Victorian average falls to \$509 per person. The Northern Territory collected less revenue per capita from taxes on land than any other State (\$302 per person), followed by South Australia (\$473 per person). Even if revenue raised from *land tax* is excluded, the Northern Territory still raised less revenue per capita from taxes on land than any other State.

Table 7.3: Revenue from State and local government taxes on land, by State, 1995–96^a

State	All taxes on land	Total tax revenue ^b	Share of total tax revenue	Per capita taxes on land ^c
	\$m	\$m	Per cent	\$ per person
New South Wales	3 679	12 589	29.0	593
Victoria	2 591	9 630	26.9	568
Queensland	1 787	4 939	36.2	535
Western Australia	964	3 079	31.3	546
South Australia	697	2 470	28.2	473
Tasmania	226	760	29.8	477
Australian Capital Territory	163	519	31.3	528
Northern Territory	55	302	18.2	302
Australia	10 163	34 389	29.6	555

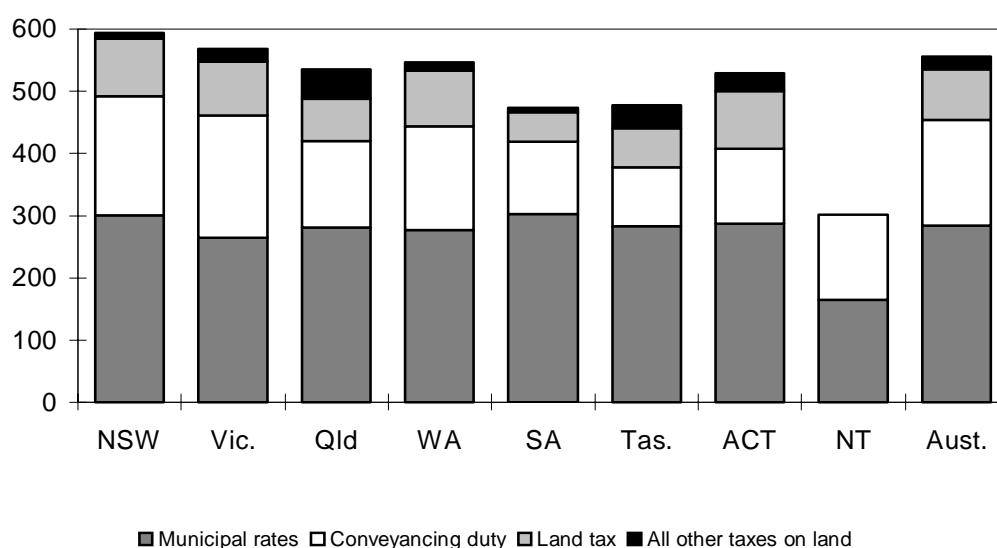
a Includes: municipal rates; conveyancing duty; land tax; metropolitan improvement tax; property owners' contribution to fire brigades; lease duty, and other taxes on immovable property.

b State, Territory and local government *Taxes, fees and fines*, less *Fees and fines*.

c Taxes on land per person based on the estimated resident population as at 30 June 1996.

Sources: ABS 3201.0, 5506.0.

Figure 7.1: Per capita revenue from State and local government taxes on land, by State and type of tax, 1995–96 (\$ per person)^a



a All other taxes on land includes metropolitan improvement taxes, property owners' contribution to fire brigades, lease duty and taxes other levied on property (eg. for the control of vermin and noxious weeds).

Sources: ABS 5506.0 and Grants Commission (1997a, p. 132).

Table 7.4: Per capita revenue from State and local government taxes on land, by level of government, 1995–96 (\$ per person)

State	State government	Local government	Total
New South Wales	292	301	593
Victoria ^a	304	264	568
Queensland	251	285	535
Western Australia	270	276	546
South Australia	170	303	473
Tasmania	195	282	477
Australian Capital Territory	242	286	528
Northern Territory	137	165	302
Australia	271	284	555

a If the conveyancing duty paid on the privatisation of the State's electricity generation assets is excluded, the per capita State government and Total fall, respectively, to \$246 and \$509.

Sources: ABS 3201.0 and 5506.0.

There is less dispersion in the incidence of local government taxes levied on land (Table 7.4). The Northern Territory is an outlier, raising considerably less per capita than any other State (\$165 per person). Local government taxes in South Australia and New South Wales are marginally higher than in the remaining States (\$303 and \$301 per person, respectively).

The importance of taxes on land as a source of revenue has varied considerably over time. Three general patterns emerge. For most of this century, taxes on land have been becoming progressively less important as a source of revenue for State and local governments. In 1901–02, taxes on land accounted for 82 per cent of non-labour income tax revenue (Table 7.5). By 1995–96, this had steadily declined to approximately 30 per cent. Secondly, taxes on land have nevertheless tended to increase recently, in both nominal and real terms (Figure 7.2). Thirdly, revenue collections exhibit cyclical fluctuations about these longer-term trends reflecting, amongst other things, the state of the underlying property market.

Table 7.5: Total revenue from State and local government taxes on land, Australia, 1901–02 to 1995–96 (percentage of State tax revenue)^a

<i>Tax</i>	<i>1901–02</i>	<i>1929–30</i>	<i>1948–49</i>	<i>1980–81</i>	<i>1995–96</i>
Land tax	na	5.7	2.3	4.3	4.3
Municipal rates	55.6	47.8	33.1	19.8	15.1
Stamp duties nei ^b	26.7 ^c	12.4	15.7	16.3	12.1
Estate & death duties	na	11.2	11.0	2.1	na
Total taxes on land^b	82.2	77.2	62.2	42.5	31.5
Share of GDP	1.8	3.2	1.7	2.5	2.2

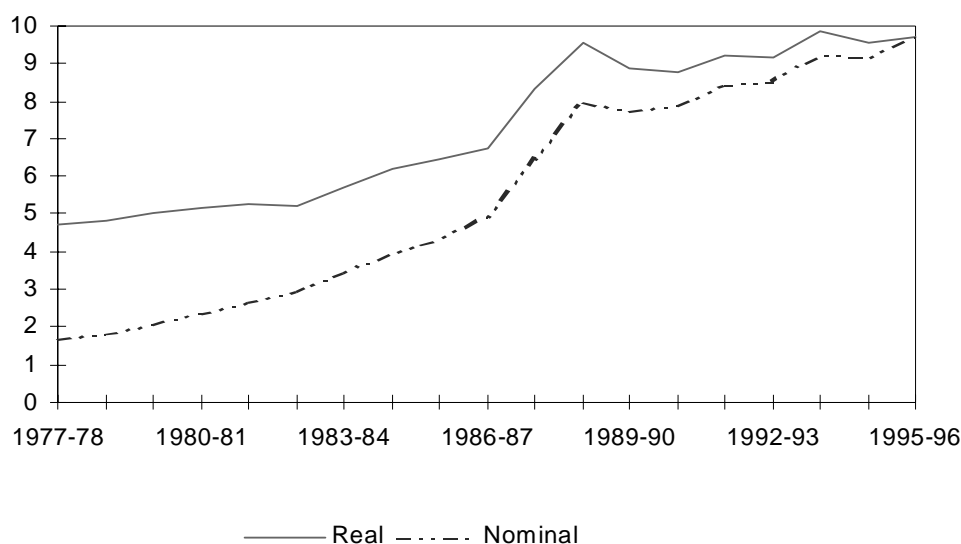
a Share of total own source State, Territory and local government revenue (excluding income taxation).

b Includes some non-land stamp duties.

c Value for 1901–02 includes Estate & death duties.

Sources: Groenewegen (1984, pp. 84–85), ABS 5506.0 and RBA (1996b, p. S112)

Figure 7.2: Revenue from State and local government taxes on land, Australia, 1978–79 to 1995–96 (\$ billion)^a



a Revenue from *land tax*, *municipal rates* and *conveyancing duty*.

Sources: ABS 5506.0 and Grants Commission (various).

The importance of individual taxes also varies over time. *Death duties*, so important earlier in the century, were abolished in the 1970s and 1980s. *Land taxes* were progressively introduced around the turn of the century and their relative importance as a tax on land has increased steadily since the Second World War. The importance of *land tax* as a source of revenue is partly tied to the fortunes of the commercial property market.¹⁴ *Land tax* revenue increased steadily until 1992–93, where it declined, reflecting the effects of the 1990–91 downturn in the commercial property market (especially in Sydney).¹⁵ With the introduction of other forms of land taxation, the relative importance of *municipal rates* has declined significantly throughout the century. The share of total land taxation revenue accounted for by *municipal rates* has nevertheless increased since 1980–81, despite its importance relative to other (non-land) taxes declining. The importance of *conveyancing duty* has moved in a cyclical pattern more or less in line with movements in the property market, especially

¹⁴ Its importance as a source of revenue also reflects changes in the rate structure applied to the underlying land values.

¹⁵ Commenting on its budget estimates for the 1992–93 financial year, the NSW Treasury stated that ‘tax payments for the 1993 *land tax* year will be based on land values as at 1 July 1992. Given the significant decline in the average value of commercial land, which comprises the major component of the *land tax* bases, receipts will fall significantly in 1992–93’ (New South Wales 1992, p. 3-18).

the residential market. Revenue increased with the booming property market of the mid 1980s, before declining with the downturn that followed. As activity in the commercial property market picked up in the early 1990s, so did the revenue from *conveyancing duty*.

Composition of tax revenue

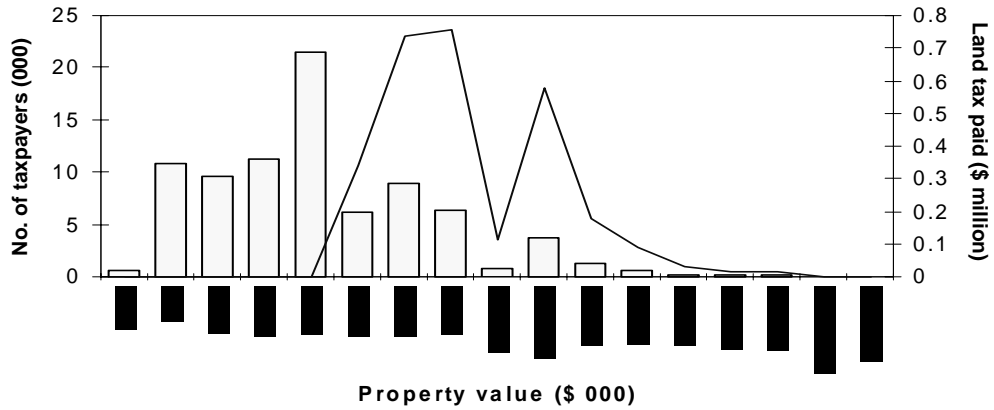
A detailed breakdown of who pays the various taxes on land is not available for Australia as a whole. Tasmania is the only State to provide a breakdown of the amount of revenue collected from different types of taxpayers and the distribution of the underlying tax base.

The way *land tax* operated in Tasmania in 1995–96 was substantially different from the way it operated in the other States (except Victoria). It was also different from the way it is levied there today, as owner-occupied and rural land are no longer taxed. Owner-occupied residential landowners accounted for over half of all taxpayers in 1995–96 (56 per cent), but only 9 per cent of the *land tax* revenue (Figure 7.3). The average amount of *land tax* by owner-occupiers (\$34 per owner-occupier) was considerably lower than for the other categories of taxpayer (\$217 and \$464, respectively, for rural and general landowners). In part, this reflects the heavy tax burden born by a small number of very large commercial and industrial landowners contained within the ‘general’ category. Overall, general taxpayers (commercial, industrial and other residential landowners) generated 85 per cent of *land tax* revenue, despite only accounting for 39 per cent of taxpayers. Rural landowners made an equi-proportional contribution to *land tax* revenue (accounting for 6 per cent of taxpayers and revenue), despite having high average land values. Unfortunately, the general category was not subdivided into commercial, industrial and other residential landowners.

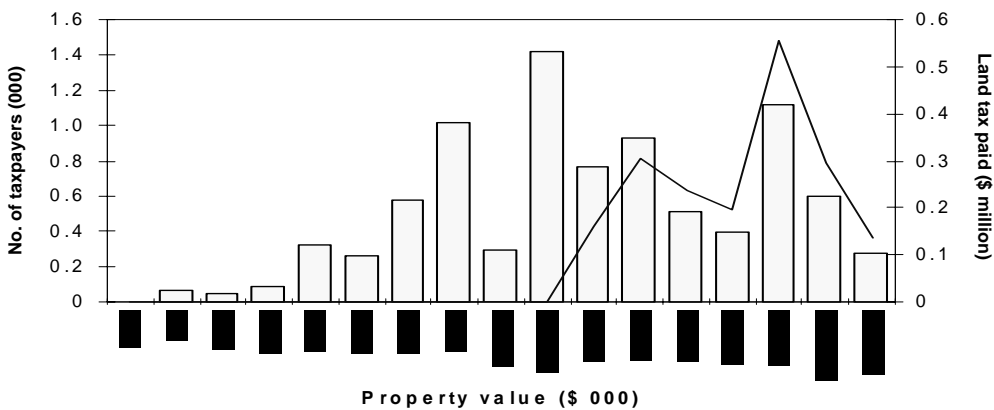
Australia-wide, the number of potential land taxpayers is skewed towards the low end of the value scale (Figure 7.4). The average effective rate of taxation increases substantially for properties valued over \$250 000. Despite accounting for just over 3 per cent of taxpayers by number, landowners with properties valued over \$1 million account for approximately 43 per cent of all *land tax* payments. Thus, a relatively small number of very large taxpayers bear a significant portion of the *land tax* burden.

Figure 7.3: Distribution of land tax taxpayers, Tasmania, 1995–96

(a) Principal residence



(b) Rural



(c) General (commercial, industrial and other residential)

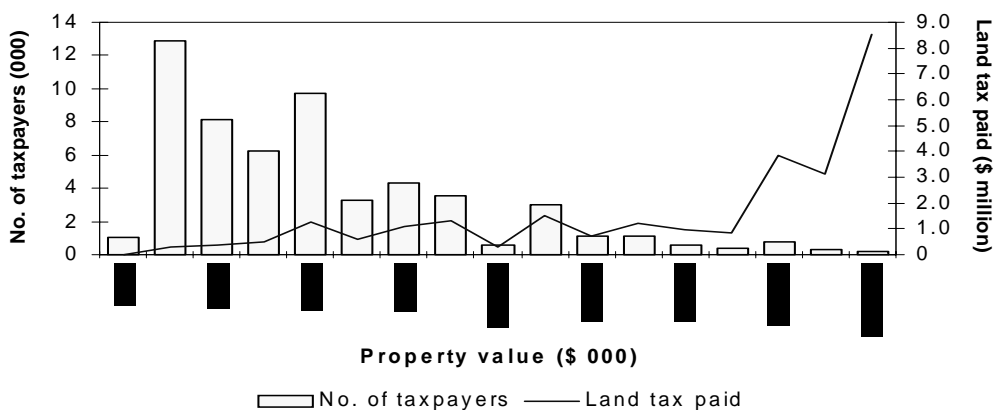
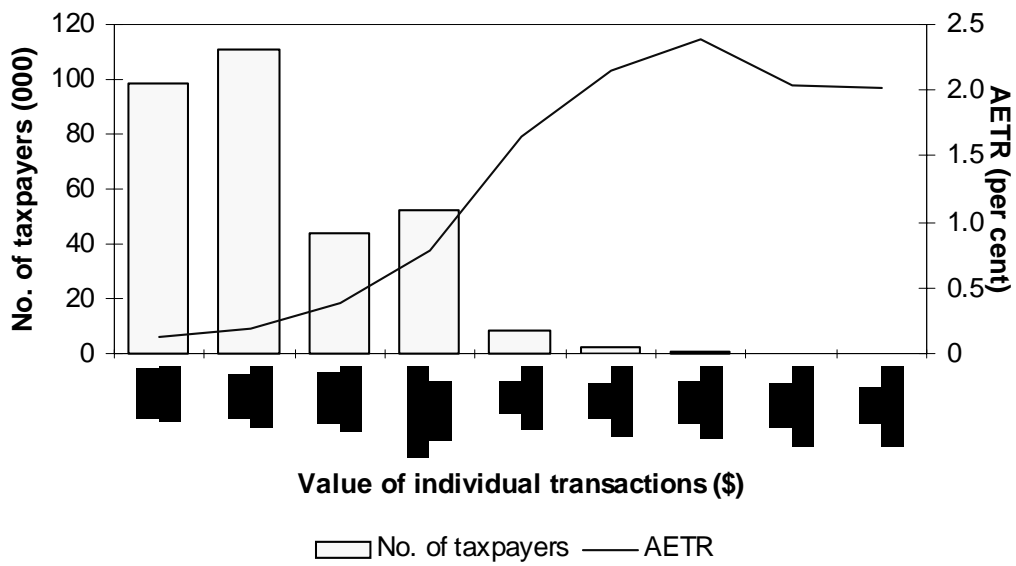


Figure 7.4: Distribution of land tax taxpayers, Australia, 1995–96



Source: Grants Commission (1997b, pp. 48–51).

Table 7.6: Distribution of conveyancing duty taxpayers, Tasmania, 1995–96^a

Transaction value	Residential			Non-residential		
	Taxpayer s	Value of transfers	Duty paid	Taxpayer s	Value of transfers	Duty paid
	No.	\$ 000	\$ 000	No.	\$ 000	\$ 000
\$0 to \$1 300	9	5	0	803	276	16
\$1 301 to \$10 000	126	896	14	416	2462	38
\$10 001 to \$30 000	294	6311	112	1 186	25 025	444
\$30 001 to \$75 000	2 558	152 169	3 291	1 207	55 029	1 136
\$75 001 to \$150 000	3 967	413 435	10 117	291	30 727	756
\$150 001 to \$225 000	737	133 023	3 680	86	17 187	480
Over \$225 000	296	103 408	3 402	203	151 030	5 500
Total	7 987	809 247	20 616	4 192	281 736	8 372

a Excludes 2 402 conveyance transactions amounting to \$5.4 million in duty processed at the Land Titles Office.

Source: Parliament of Tasmania (1996, pp. 64–65).

Over 70 per cent of all *conveyancing duty* paid in Tasmania emanated from the transfer of residential land (Table 7.6). The average amount of duty paid on transfers of residential land was \$2 581 (average transaction value \$101 321) and \$1 997 on non-residential land (value \$67 208) in 1995–96. Within both residential and non-residential transfers, the amount of duty paid increased with the value of the taxable transaction — both in absolute terms and as a share of the value of the transaction.¹⁶

As the property market in Tasmania may differ from that in the larger States (especially New South Wales and Victoria), these findings may not extend to the rest of Australia. However, Victorian data on property transfers confirm that residential transfers account for a majority of property transfers — both in terms of the number of transactions and, more importantly, in terms of the value of transactions (Table 7.7). This suggests that most *conveyancing duty* is paid by residential landowners. A similar pattern for is revealed for *land tax* in the ACT, with the number of residential valuations far exceeding the number of

¹⁶ The only exception to this occurred for non-residential transfers, where the share increased substantially for transactions valued under \$1 300 (5.8 per cent) compared with transactions valued between \$1301 and \$10 000 (1.5 per cent).

commercial valuations (Table 7.8). In value terms, however, residential properties only just exceed commercial properties.

Table 7.7: Property sales, Victoria, 1995

<i>Classification</i>	<i>Property sales</i>		<i>Share of total by:</i>	
	<i>Number</i>	<i>Value</i>	<i>Number</i>	<i>Value</i>
	No.	\$m	Per cent	Per cent
Residential	103 613	12 935	93.0	81.5
Rural	3 521	579	3.2	3.7
Industrial	1 411	590	1.3	3.7
Commercial	2 888	1 768	2.6	11.1
Total	111 433	15 872	100.0	100.0

Source: Victorian Office of the Valuer General (1996, pp. 16 & 18).

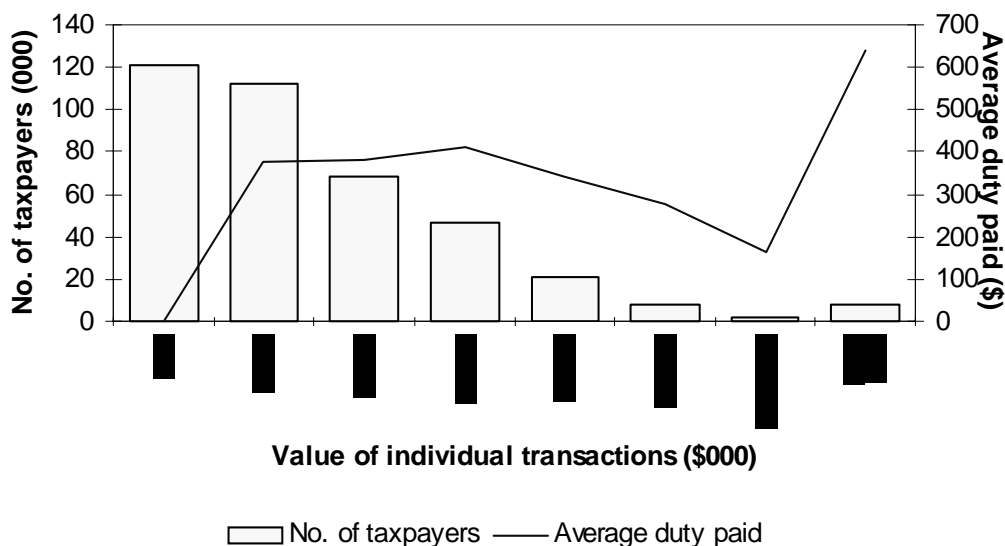
Table 7.8: Land-taxable properties and valuations, ACT, 1 July 1996

<i>Type of property</i>	<i>Taxable properties</i>		<i>Valuation of properties</i>	
	No.	\$m		
Residential	21 606	1 326		
Commercial	4 022	1 215		
Total	25 628	2 542		

Source: ACT Office of Financial Management (1996, p. 16).

The Grants Commission (1997b) estimated the distribution of dutiable transactions between States by broad value ranges. However, it did not disaggregate the State totals by type of transaction. The Grants Commission data indicate that the number of taxpayers paying *conveyancing duty* Australia-wide declines substantially with the size of the transaction (Figure 7.5). Transactions valued under \$200 000 account for approximately 78 per cent of all transactions by number, 44 per cent by value and generate 21 per cent of total revenue. The lower revenue contribution by this group reflects the

Figure 7.5: Distribution of conveyancing duty taxpayers, Australia, 1995–96^a



a For each value range, the number of taxpayers was estimated by dividing the total value of transactions (Scaled Value of Transactions) by the maximum transaction value (Value Range).

Source: Grants Commission (1997b, pp. 66–68).

targeting of concessional arrangements (primarily first home buyers) and the significant revenue generated from transactions valued over \$2 million (primarily commercial and industrial). The Tasmanian and Grants Commission data do not enable a more detailed breakdown of *conveyancing duty*. It would be desirable, particularly from an equity perspective, to break down the amount of duty paid by residential and non-residential sector (pensioners, first home buyers, commercial, industrial and rural landowners etc). Nevertheless, it is possible to draw some further conclusions on the income and net wealth of those paying the duty from other sources, as discussed later in this chapter.

Exemptions

Despite some regional differences, most State taxes on land have similar exemptions or concessional arrangements. However, the importance of these arrangements differs between States and Territories.

There are numerous general *land tax* exemptions. The primary exemptions are for land used for owner-occupied housing (except in New South Wales and, for the time being, Victoria), most agricultural production, local government, and charitable, benevolent, religious, recreational and social purposes. The Western Australian Government estimated that *land tax* exemptions (called tax expenditures) cost the State \$178.7 million in revenue forgone, or 110 per cent

of *land tax* revenue in 1996–97 (Table 7.9). However, an earlier estimate by the NSW Tax Task Force (1988, pp. 129–130) indicated that the amount of revenue forgone is likely to be even higher, as the Western Australian estimate excluded a number of exemptions.

Table 7.9: Land tax revenue forgone through exemptions, Western Australia, 1996–97

<i>Nature of exemption</i>	<i>Revenue forgone</i>	<i>Share</i>
	\$m	Per cent
Principal place of residence	162.0	91
Primary production	15.0	8
Land developers' concession	1.7	1
Total land tax revenue forgone	178.7	100
Tax revenue (estimated actual) ^a	162.0	
Share of tax revenue forgone	110%	

a Revenue from *land tax* as published in the State Budget Papers.

Source: Government of Western Australia (1997b, pp. 89 & 124).

In comparison, *municipal rates* have virtually no exemptions. Some rural land is exempt from rates on the grounds that it does not benefit from most of the services provided by local government (eg. water, sewerage, drainage and waste disposal). Similarly, concessional rates or exemptions often apply to land used for charitable, benevolent, religious, recreational and social purposes. Concessional arrangements also exist for those experiencing difficulty in paying their rates (eg. pensioners).

Conveyancing duty applies to virtually all land transactions. Some concessional arrangements exist for transfers relating to charitable, benevolent, religious, recreational and social purposes, corporate reconstructions and first home buyers. The Western Australian Government costed its revenue forgone at \$21.7 million, or 7.4 per cent of total revenue collected in 1996–97 (Table 7.10). This estimate includes the exemption granted to the transfer of chattels (portable furnishings and equipment) that only applies in Western Australia.

Table 7.10: Conveyancing duty forgone through exemptions, Western Australia, 1996–97

<i>Nature of exemption</i>	<i>Revenue forgone</i>	
	\$m	Share
		Per cent
Chattels exemption	6.0	28
Concessional rebate for homes and business	2.7	12
\$500 rebate for first homes	2.3	11
Family farms exemption	4.1	19
Corporate reconstruction exemption	6.6	30
Total conveyancing duty forgone	21.7	100
Tax revenue (estimated actual) ^a	294.0	
Share of tax revenue forgone	7%	

a Revenue from *conveyancing duty* as published in the State Budget Papers.

Source: Government of Western Australia (1997b, pp. 89 & 124).

Revenue raising ability and effort

Given regional differences in the property market, each State has a different ability to raise revenue from taxes on land. In recognition of this, the Grants Commission calculates an index of revenue raising capacity. The index indicates the potential for each State to raise revenue from *land tax*, after adjusting for differences in the distribution of property values between States.¹⁷ The Grants Commission also produces an index of the revenue raising effort to indicate how effectively the States are utilising their revenue base.

The capacity of States to raise revenue through *land tax* depends on commercial and industrial property values. Thus, the Grants Commission assessed that New South Wales had a considerably higher capacity to raise revenue from *land tax*

¹⁷ The Grants Commission used the total value of commercial and industrial land (adjusted to reflect differences in the distribution of property values between States) as the tax base in its calculations. While this is close to the actual tax base for most States, it underestimated the Victorian and Tasmanian bases in 1995–96 by excluding taxable owner-occupied residential and rural land in both States (owner-occupied residential and rural land is no longer taxed in Tasmania). The Grants Commission did not take these wider bases into account when assessing the Victorian and Tasmanian average effective tax rate, but included the revenue from these properties in its revenue figures. Therefore, the Victorian and Tasmanian indices of revenue raising effort and average effective tax rates (discussed in the next section) reported by the Grants Commission are likely to overestimate actual values.

than did any other State, while Tasmania, South Australia and the Northern Territory were assessed to have a much lower revenue raising potential from *land tax* (Table 7.11).¹⁸

The index of revenue raising effort measures, on a per capita basis, the amount of revenue raised in a State relative to the Australian average. In calculating the index, the Grants Commission compares actual revenue raised per capita with the hypothetical revenue that could be raised if each State levied *land tax* at the Australian average effective rate (referred to by the Grants Commission as the standard effective tax rate) on its value-adjusted tax base. The use of the value-adjusted base (as opposed to the actual tax base) means that the index implicitly takes into account differences between States in their ability to raise revenue through *land tax*. The index shows that Tasmania and Western Australia exploited their *land tax* bases better in 1995–96 than did the other States (Table 7.11). Apart from the Northern Territory (which does not levy *land tax*), New South Wales was the only other State to have a below average revenue raising effort.

¹⁸ The Grants Commission (1997b, p. 43) assessed that the ACT had a similar revenue raising capacity to Victoria (96.50 and 98.60, respectively). This arose because Victoria had higher proportions of both high and low valued commercial and industrial properties than did the ACT (see Grants Commission 1997b, pp. 48–51).

Table 7.11: Indices of revenue raising capacity and effort, land tax and conveyancing duty, 1995–96

State	Land tax		Conveyancing duty	
	Capacity ^a	Effort ^b	Capacity ^a	Effort ^b
New South Wales	135.8	81.7	116.3	104.2
Victoria	98.6	106.7	71.4	125.1
Queensland	74.9	115.6	120.8	72.6
Western Australia	91.5	135.1	113.6	98.1
South Australia	50.6	113.1	77.3	98.0
Tasmania	26.8	279.9	55.2	111.7
Australian Capital Territory	96.5	119.6	83.2	96.3
Northern Territory	61.8	0.0	77.5	117.6
Australia	100.0	100.0	100.0	100.0

a Indicates the ability of a State to raise revenue relative to the Australian average.

b Indicates the efforts made by individual States to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997a, pp. 288–289).

The ability to raise revenue from *conveyancing duty* depends on the number and value of property transfers. Faster growing States, such as Queensland and Western Australia, are better placed to raise revenue through *conveyancing duty* than are States experiencing little population growth. The Grants Commission assessments for 1995–96 reflect this (Table 7.11). New South Wales was also assessed to have a high revenue raising capacity, reflecting the buoyancy of the residential and commercial property markets.

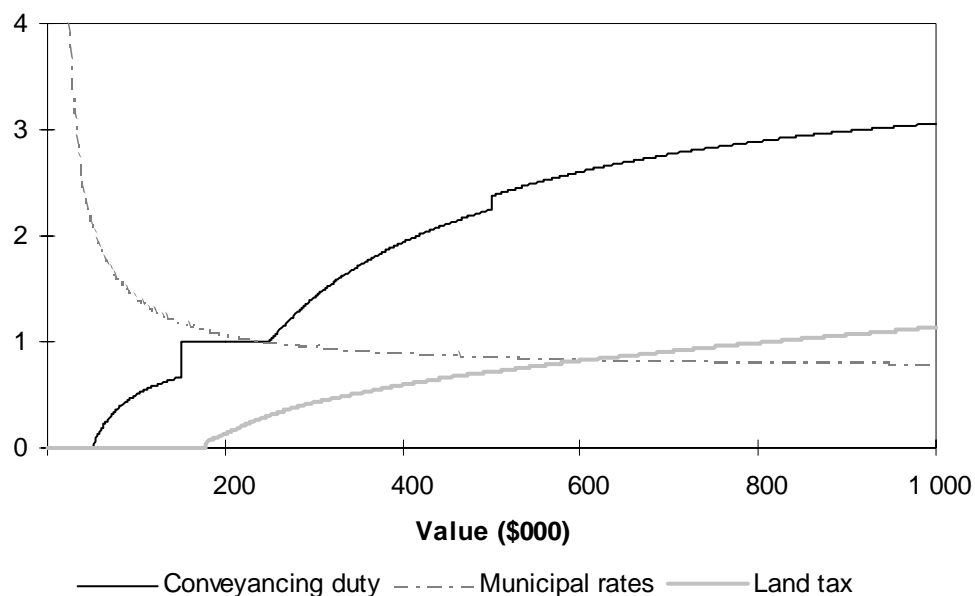
In terms of using *conveyancing duty* to raise revenue, Victoria, the Northern Territory, Tasmania and New South Wales exceeded the Australian average effort (Table 7.11). On the other hand, Queensland made considerably less effort than the remaining States to raise revenue in this way.

Effective rates of taxation

The rate scales used for both *land tax* and *conveyancing duty* mean that the effective rate of taxation faced by an individual taxpayer increases with the value of land (Figure 7.6). This makes these taxes one of the few progressive taxation methods by which States can redistribute wealth. The effective rate of tax paid through *municipal rates* declines as property values increase because of

the presence of the fixed fees and caps that determine the minimum amount of rates payable. This is despite a constant marginal rate of taxation.

Figure 7.6: Effective rate of taxation on owner-occupied housing, Queensland, by type of tax on land, 1995–96^a



^a Municipal rates calculated for Brisbane City Council assuming fixed costs of \$683.52 per year (minimum water charges \$298.24, mobile bin service \$166.32, sewerage charge \$188.96 and environmental levy \$30) plus a general rate of 0.7296 cents in the dollar with a minimum general rate of \$279.88.

Sources: Estimates based on Brisbane City Council (1996, pp. 441–467) and NSW Treasury (1997, pp. 9–10 & 19–20).

According to the Grants Commission, the average effective rate of *land tax* in Australia in 1995–96 was 1.9 per cent (Table 7.12). There was, however, a wide dispersion in the rates between States. Tasmania was estimated to have the highest average effective rate of *land tax*, at 5.3 per cent. However, with a progressive rate structure and a maximum marginal tax rate of 2.5 per cent in 1995–96, it is impossible for the average effective rate of tax to be 5.3 per cent.¹⁹ The Grants Commission's estimate could reflect the exclusion of owner-occupied and agricultural land from the *land tax* base. From 1 July 1996,

¹⁹ The 1995–96 Tasmanian Budget Papers indicate that *land tax* generated \$29.8 million in revenue from an assessed land value of \$8 688 million (Parliament of Tasmania 1996, pp. 53 & 57). These figures imply an average effective rate of land tax of 0.34 per cent, considerably lower than the unadjusted 2.5 per cent implied by the Grants Commission (5.3 per cent \times 0.4821), where 0.4821 is the scaling factor used by the Grants Commission to adjust for interstate property differences.

owner-occupiers and agricultural landowners have been exempted from the Tasmanian tax. Of the remaining States levying *land tax*, New South Wales had the lowest effective rate (1.5 per cent) and Western Australia the highest (2.5 per cent).

Table 7.12: Average effective tax rates, land tax and conveyancing duty by State, 1995–96

State	Land tax			Conveyancing duty		
	Actual revenue	Revenue base	Average effective tax rate	Actual revenue	Revenue base	Average effective tax rate
	\$ per capita		Per cent	\$ per capita		Per cent
New South Wales	92.7	6 050	1.5	187.6	6 240	3.0
Victoria	88.1	4 395	2.0	138.4	3 833	3.6
Queensland	72.4	3 338	2.2	135.8	6 482	2.1
Western Australia	103.3	4 077	2.5	172.6	6 098	2.8
South Australia	47.8	2 254	2.1	117.3	4 149	2.8
Tasmania	62.7	1 195	5.3	95.4	2 962	3.2
Australian Capital Territory	96.5	4 301	2.3	124.1	4 467	2.8
Northern Territory	0.0	2 756	0.0	141.1	4 158	3.4
Australia	83.6	4 457	1.9	154.8	5 366	2.9

Source: Grants Commission (1997b, pp. 43, 44, 60 & 61).

The Grants Commission assessed the average effective rates of *land tax* using commercial land values. However, the base for *municipal rates* also includes residential and some agricultural land. Australia-wide, the value of commercial land accounts for only 13 per cent of the total land value (Table 7.13), while residential and rural land values account for 76 and 11 per cent, respectively. Rates are levied on some, but not all, rural land. If all agricultural land is included in the tax base as an upper estimate of the tax base, the average effective rate of taxation for *municipal rates* in 1995–96 would be in the order of 0.8 per cent (Table 7.14).²⁰ Most States are close to the Australian average, except for three outliers. Tasmania (1.4 per cent) and South Australia (1.2 per cent) have above average effective rates of taxation, while the rate in New South Wales (0.7 per cent) is below average.

²⁰ The use of 30 June 1995 site values is not unreasonable as there is often a lag of at least a year between when the land is valued and when the tax is paid.

Table 7.13: Value of land, by State and type of land, 30 June 1995 (\$ billion)^a

<i>State</i>	<i>Residential</i>	<i>Commercial</i>	<i>Rural</i>	<i>Total</i>
New South Wales	207.9	34.1	18.9	260.9
Victoria	101.3	20.5	17.5	139.3
Queensland	75.6	12.1	10.3	98.0
Western Australia	46.4	7.6	14.1	68.0
South Australia	28.7	4.0	4.6	37.3
Tasmania	5.9	1.1	2.1	9.1
Australian Capital Territory	7.6	1.4	na	9.0
Northern Territory	2.6	0.7	0.2	3.6
Australia	475.9	81.4	67.8	625.2

a Estimated site values (not adjusted to reflect differences in the distribution of land values between States).

Source: ABS 5241.0.

Many landowners will be subject to both *land tax* and *municipal rates* (Table 7.14). The average effective rate of *property tax* (*land tax* plus *municipal rates*) across Australia is 1.1 per cent, primarily reflecting the importance of *municipal rates*.²¹ Tasmania (1.8 per cent) effectively generated more revenue from *property taxes* than did any other State, followed by South Australia (1.4 per cent) and the ACT (1.3 per cent). The Northern Territory (0.8 per cent) and New South Wales (0.9 per cent) had a lower overall average effective tax rate on property ownership.

Economic incidence

Property taxes were traditionally viewed as driving a wedge between the price faced by buyers and that received by sellers (eg. Wood 1991). As land was viewed as being in fixed supply, it was thought that the burden of *property taxes* would fall entirely on those owning the land when the tax was introduced. As no supply side adjustments were viewed possible, it was thought that the stream of tax payments associated with landownership would be capitalised and deducted from the purchase price of the land. Thus, sellers could not pass the burden of the tax onto buyers of the property.

²¹ While the average effective tax rate is actually higher for those property owners paying *land tax* than for *municipal rates*, most land (in terms of value) is exempt from *land tax*. This results in a much lower average effective rate of *land tax* across *all* land owners.

Table 7.14: Average effective tax rates, municipal rates and property taxes by State, 1995–96^a

State	Municipal rates			Property taxes ^b		
	Actual revenue	Revenue base ^c	Average effective tax rate	Actual revenue	Revenue base ^c	Average effective tax rate
	\$ per capita		Per cent	\$ per capita		Per cent
New South Wales	302	42 407	0.7	394	42 407	0.9
Victoria	265	30 809	0.9	352	30 809	1.1
Queensland	280	29 540	1.0	352	29 540	1.2
Western Australia	277	38 919	0.7	367	38 919	0.9
South Australia	302	25 271	1.2	350	25 271	1.4
Tasmania	283	19 230	1.5	346	19 230	1.8
Australian Capital Territory	287	29 456	1.0	380	29 456	1.3
Northern Territory	169	20 424	0.8	169	20 424	0.8
Australia	284	34 409	0.8	365	34 409	1.1

a The *land tax* data used in this table come from the ABS and are, therefore, not strictly comparable with the data in Table 7.12. The differences are, however, small.

b Municipal rates plus land tax.

c Average per capita site value of land Australia-wide, as at 30 June 1995 (latest available), based on Table 7.13.

Sources: ABS 5506.0, 5241.0.

Similarly, landowners would be unable to pass the tax on to tenants in the form of higher rents. This perceived unresponsiveness made land an ideal subject for taxation on efficiency grounds, as the tax would not distort resource allocation decisions. Under the traditional view, the incidence of *land tax* would fall on initial owners of commercial and industrial land (and, in Victoria, on residential and rural landowners subject to the tax). The incidence of *municipal rates* would be spread across the initial owners of all rateable properties.²²

This view has recently been challenged. Land is not homogeneous — it has a variety of different uses. While the assumption of fixed supply of land is more or less plausible for the Australian economy as a whole, it does not necessarily mean that the supply of particular types of land is fixed. The area devoted to a particular activity can be increased by clearing land, by rezoning or by

²² There has been a recent debate in New South Wales about the size of the capital losses involved — see Rose (1997) and Gilchrist (1998).

otherwise reducing the amount of land devoted to alternate activities. Productivity enhancements can also increase the effective supply of land (eg. through scientific research). Thus, the supply of land is slightly more elastic than previously thought, although many of these responses will take some time to occur.

The presence of exemptions also means that land owners can, to some extent, alter the effective rate of taxation they face through supply-side responses. For example, *land tax* exemptions applying to owner-occupied and agricultural land may provide some incentive for land owners to get marginal commercial land rezoned.

This supply responsiveness means that initial landowners will bear less of the burden of *property taxes* than previously thought, with subsequent buyers and users of the land (eg. tenants) bearing a greater share. The supply responsiveness may take time to occur, however. Thus, the traditional view of the incidence of *property taxes* may be a reasonable assessment in the short term. Alternatively, the more comprehensive the *property tax*, the closer would be the incidence to the traditional view.

Recent analysis has highlighted the mobility of capital and other resources.²³ With many State and local government jurisdictions, mobile resources may move between jurisdictions in response to differentials in the taxes on them, reducing demand for land and, hence, its price.²⁴ Thus, regional disparities in some taxes may encourage the inefficient relocation of capital and other mobile resources. Mobility may make the demand for land in a given jurisdiction more elastic than otherwise, but does not prevent the incidence of *land tax* being born as a capital loss. However, the existence of *conveyancing duty* may discourage such mobility.²⁵

Municipal rates and, where applicable, *land tax* increase the cost of housing on an annual basis. *Transaction taxes*, such as *conveyancing duty* and *mortgage and loan security duty*, also increase the cost of housing, but are incurred on an irregular basis when property sales occur. Thus, the effect of *transaction taxes* on the annualised cost of housing diminishes as the length of occupancy increases. Assuming no other changes, Wood (1994a) estimated that *municipal*

²³ Hobson (1987) includes a review of the theoretical and empirical literature from North America.

²⁴ It is assumed that no movement occurs in the reverse direction, which may occur in reality if higher taxes are accompanied by higher quality or more extensive services.

²⁵ In 1989, *conveyancing duty* payable on the median house across Australia (six State capitals) ranged from \$1 040 (Brisbane) to \$4 860 (Sydney). These amounts are significant when compared with the differentials in most other taxes (Wood 1991, p. 26).

rates, conveyancing duty and mortgage and loan security duty increased the cost of housing Australia-wide by between 0.9 and 1.3 per cent per year, depending on the length of occupancy (Table 7.15). Reflecting beneficial concessional arrangements, the effect of these taxes on the cost of housing to first home buyers was lower — ranging from 0.8 to 1.1 per cent per year.

Table 7.15: Contribution of taxes on residential housing to user cost of capital, Australia, 1990 (percentage points)^{ab}

State	Expected holding period (years)				
	5	10	15	20	25
<i>Continuing owners:</i>					
New South Wales	1.2	1.0	0.9	0.9	0.8
Victoria	1.5	1.2	1.1	1.0	1.0
Queensland	0.9	0.8	0.7	0.7	0.7
Western Australia	1.3	1.0	1.0	0.9	0.9
South Australia	1.5	1.2	1.1	1.0	1.0
Tasmania	1.5	1.2	1.2	1.1	1.1
Weighted average ^c	1.3	1.0	0.9	0.9	0.9
<i>First home buyers:</i>					
New South Wales	1.0	0.8	0.8	0.7	0.7
Victoria	1.5	1.2	1.1	1.0	1.0
Queensland	0.8	0.7	0.7	0.7	0.7
Western Australia	1.3	1.0	1.0	0.9	0.9
South Australia	0.9	0.8	0.8	0.7	0.7
Tasmania	1.5	1.2	1.2	1.1	1.1
Weighted average ^c	1.1	0.9	0.9	0.8	0.8

a Contribution of municipal rates, annualised stamp duties and annualised mortgage duty.

b User cost of capital is defined as the rate at which a home owner's equity investment in owner-occupied housing will equal the discounted value of the expected future stream of revenue and costs.

c Calculated using each State's sample proportion as weights.

Source: Wood (1994a, pp. 6–8).

7.2 Assessment

Efficiency

Broad-based *property taxes* have long been regarded as a relatively efficient form of taxation. Indeed, economic efficiency featured prominently in the debate leading up to the introduction of *land tax* in Australia late last century. As land was viewed as being in fixed supply, not only was the economic incidence of *land tax* viewed as falling entirely on initial landowners via a capital loss, no further resource allocation decisions were affected.

While land is no longer viewed as being in completely fixed supply, its supply is still unresponsive relative to goods and services or to other productive factors, especially in the short run. This property makes a broad-based *property tax* desirable tax on efficiency grounds — a given amount of revenue can be raised more efficiently than using other forms of taxation.

However, *land tax*, in its current form, falls well short of this ideal. It has a fairly narrow base — most States only tax land used for commercial and industrial purposes and for non-owner-occupied housing. This may encourage land to be devoted to exempt activities, such as owner-occupied housing and agricultural production. Treating owner-occupied housing differently from rental accommodation is the most obvious source of efficiency loss. However, this distortion may be partially offset by the effect of the tax-free threshold applying to *land tax* in most States. While owner occupiers may be exempt, landlords owning a small number of rental properties may fall below the tax-free threshold and similarly pay no tax, so long as they do not own any other *land tax*-liable land. However, the existence of tax-free thresholds may also encourage smaller holdings of land.²⁶

In terms of the breadth of the tax base, *municipal rates* come much closer to the ideal than does *land tax*. However, unlike *land tax*, *municipal rates* are not levied at a uniform rate. The Brisbane City Council, for example, levies the general rates component of its charges differently depending on land use, with five different rates of charges applying to six categories of land use (Brisbane City Council 1996, pp. 445–450). While this may be efficient if the usage of services differs between property types, differential pricing may still cause some minor distortion of land use. For example, the lower rate applying to single dwellings may, at the margin, discourage the development of multiple dwellings.

²⁶ The ACT does not have a tax-free threshold, while Tasmania and Western Australia employ nominal thresholds (\$1000 and \$10 000, respectively).

Reece (1992) raises the possibility that comprehensive land taxation, paradoxically, may be less efficient than initially thought because *land tax* is an allowable deduction for Commonwealth *income tax*. He argues that income taxes are, as a result, higher than they would otherwise be. Given that the efficiency losses associated with income taxation are higher than those associated with land taxation, he claims the losses would be greater than from land taxation alone. This additional loss, however, arises from the deductibility of *land tax* payments for *income tax* purposes and not from *land tax* per se.

Tax-free thresholds and progressive rate structures applying to *land tax* give landowners an incentive to split up their holdings of land. Grouping provisions are used to overcome these incentives, but the way they operate in practice may generate inefficient behaviour. For instance, by geographically diversifying their holdings interstate, landowners can benefit from multiple tax-free thresholds that would not be available to them if all of the land were held in one State. Unlike those applying to *payroll tax*, the grouping provisions for *land tax* do not adjust the tax-free thresholds downwards to take account of land held in other States. Similarly, some States group land on the basis of ownership units. This gives landowners an incentive to hold land jointly with different equity partners.

The existence of *conveyancing duty* and other costs incurred during transfer (eg. legal fees and *mortgage and loans security duty*) may discourage mobility. The amount of duty payable on a transfer is significant, both in absolute terms and relative to the other transactions costs. The duty on transfer varies considerably between States and with the value of the transfer (Table 7.16). On the transfer of a \$150 000 residential property, the amount of duty payable varies from \$1 500 in Queensland (0.6 per cent of transfer value) to \$5 200 in Victoria (3.5 per cent). The share payable increases with the value of the property transferred. The amount of duty payable on a \$300 000 property rises to between 1.4 and 4.7 per cent. The cost to many home buyers may be lower because of concessional arrangements granted in most States to first home buyers. However, the percentage cost impost may be significantly higher than these figures indicate, as the owner's equity in the property will, in most cases, be significantly lower than the purchase price. If a property buyer borrowed 80 per cent of the purchase cost, the share of their equity accounted for by *conveyancing duty* would be five times higher than the above figures indicate. At the margin, this may deter people from buying or moving when they otherwise would, and lead to an inefficient use of the housing stock. As noted, however, it may also deter inefficient movements arising from regional disparities in other taxes.

Table 7.16: Interstate comparison of conveyancing duty payable, May 1997

<i>Value</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
<i>First principal place of residence</i>								
\$80 000	903	Nil	Nil	900	Nil	1 825	Nil	Nil
\$100 000	1 393	Nil	500	1 900	Nil	2 425	Nil	654
\$150 000	2 618	5 200	1 000	3 525	4 800	3 925	3 765	2 517
<i>Principal place of residence (not first)</i>								
\$100 000	1 990	2 200	1 000	1 900	2 830	2 425	2 015	2 750
\$150 000	3 740	5 200	1 500	3 525	4 830	3 925	3 765	4 613
\$200 000	5 490	8 200	2 000	5 150	6 830	5 675	5 515	6 800
\$250 000	7 240	11 200	2 500	6 775	8 830	7 550	7 265	9 313
\$300 000	8 990	14 200	4 250	8 775	10 830	9 550	9 015	12 150

Source: Queensland Government (1997b, p. 43).

Most States have numerous rates of taxation for *land tax* and *conveyancing duty*, except for New South Wales, which levies *land tax* at a uniform rate. The rate of taxation typically rises progressively with the size of the taxable transaction. Most States have a considerable number of tax brackets for each tax. In principle, this could give rise to inefficiencies by distorting behaviour at the margin. The way the rates schedules have been set, however, means that this is unlikely to be a significant problem, because the average effective rate of tax generally increases in a smooth fashion and the changes in the statutory rates are generally fairly small. The use of ad valorem tax rates also reduces the likelihood of any inefficiencies.

Given that most property taxes operate in a similar way, some consolidation may be warranted. Consolidation, especially if the *transaction taxes* are replaced by a broad-based *property tax*, would simplify the system of land taxation and would achieve some economies of scale in administration. Currently, *conveyancing duty* is less efficient than other forms of land taxation because it is levied on capital improvements, as well as on the underlying value of land. This provides an important additional reason for consolidation.

In order to calculate the marginal excess burden (MXSB) of State taxation on land, it is necessary to have estimates of the relevant elasticities of demand and supply. There have been a number of studies, both Australian and international, that estimate uncompensated own-price and income elasticities of demand for

either housing or land. The Australian studies are summarised in Table 7.17, while the international studies are summarised in Table 7.18.

Table 7.17: Australian studies of housing and land demand

<i>Study</i>	<i>Dependent variable</i>	<i>Uncompensated own-price elasticity</i>	<i>Income elasticity</i>
Tulpule and Powell (1978)	Housing demand	-0.90	+1.30
Dixon et al (1980)	Ownership of dwellings	na	+2.00
Yates (1981)	Owner-occupied housing	-0.72	+0.12
Albon, Findlay & Piggott (1984)	Housing demand	-1.00	0.00
Chung & Powell (1987)	Housing demand	Low: -0.84 High: -1.26	+1.51
FH-ORANI	Owner-occupied housing	-0.92	+1.62
Selvanathan (1988)	Housing demand	-0.43	+0.59
Britten-Jones & McKibbin (1989)	Home services	-0.50	+1.00 ^a
IC (1993a)	Residential land	Melbourne: -0.13 Sydney: -0.11	Melbourne: +0.01 Sydney: +0.01

a The income elasticity in the Britten-Jones and McKibbin study is assumed rather than estimated.

Sources: IC (1993a), Kelly (1991) and Dixon et al (1980).

The average own-price elasticity of the demand for land (as opposed to housing) taken from the Australian and international studies is about -0.17, while the average income elasticity of the demand for land is 0.08. Given that these studies are cross-sectional and likely to have limited in-sample variation, these results are likely to underestimate the long-run uncompensated own-price and income elasticities of demand for land. For this reason, the preferred estimate of the uncompensated own-price elasticity of demand for land has been scaled up to 0.25, while the preferred estimate of the income elasticity of demand for land has been scaled up to 1.0. These scaled up estimates remain consistent with the range of estimates given in Table 7.17 and Table 7.18. An estimate of the budget share can be obtained from the share of average weekly land-related expenditure in average weekly income, which yields a budget share of 4.92 per

cent.²⁷ Thus, using the methods outlined in Appendix B, a preferred estimate of the compensated, elasticity of demand equal to -0.20 is obtained.

Table 7.18: International studies of housing and land demand

<i>Study</i>	<i>Dependent variable</i>	<i>Uncompensated own-price elasticity</i>	<i>Income elasticity</i>
Witte, Sumuka & Erekson (1979) (USA)	Lot size	-0.32	+0.40
Mayo (1981) (USA)	Housing demand	na	<+1
Selvanathan (1988) (OECD ave)	Housing demand	-0.13	+0.31
Anas (1987) (USA) ^a	Housing demand	-0.50 to -1.00	+1
Ohsfeldt & Smith (1990) (USA)	Lot size	-0.24	na

a Some of the elasticities reported in Anas (1987) were derived from a Stone-Geary utility function and relate to the demand for housing over and above a subsistence (or minimum acceptable) level, rather than the total demand for housing. The minimum acceptable level of housing was assumed to be a function of income and the price of new houses, so that the elasticities relating to total housing demand may differ from those cited above.

Sources: IC (1993a), Kelly (1991) and Dixon et al (1980).

Most studies simply assume that the supply of land is fixed and hence inelastic. In the absence of precise estimates, it is still possible to ascertain how the marginal excess burden estimate varies with different supply assumptions. In the absence of externalities, assuming a compensated elasticity of demand equal to -0.20, varying the price responsiveness of supply from the relatively inelastic 0.10 to perfectly elastic has no discernible effect on the marginal excess burden estimate — it remains negligible in all cases.

The results of the marginal excess burden calculation are reported in Table 4.2 of Chapter 4. The finding that the MXSB is negligible confirms the earlier impression that comprehensive State taxation of land is highly efficient. The finding is partly because the relevant elasticities are low, but also because current State tax rates on land are very low relative to other types of State or

²⁷ The average weekly land-related expenditure was calculated by summing the current housing costs, other capital housing costs and mortgage payments — items 101 to 109, 753 to 762 and 752 from the *Household Expenditure Survey* in 1993–94 (ABS 6535.0) — and then subtracting those items that related solely to improvements (that is, items 106, 107, 108, 109, 755, 756, 757, 758, 759, 760, 761 and 762). As the resulting total still contains expenditure relating to improvements as well as unimproved land, it was halved to obtain that component of expenditure associated with unimproved land. This assumes equi-proportionate shares of expenditure for improvements and unimproved land.

Commonwealth tax. Nevertheless, the results may understate the efficiency loss associated with the exemption from *land tax* of owner-occupied housing. To the extent that the chosen elasticities of demand and supply are for land generally, they will understate the elasticities relevant for a specific use, and higher elasticities would give a higher estimated MXSB.

Equity

There has been little work done on the equity implications of Australian taxes on land owing to a lack of data availability:

The Task Force was not convinced that Dr Warren's tax incidence model was capable of yielding meaningful results for the incidence of other state taxes because of the absence of appropriate data in the Australian Bureau of Statistics Household Expenditure Survey, a crucial data source for tax incidence estimation. For example, the HES does not provide information on property transfers and financial transactions which would be necessary to permit estimation of the incidence of certain types of stamp duties. It does not provide information on land holdings necessary for examination of land tax incidence. (NSW Tax Task Force 1988, p. 84)

Where work has been done, it has focused on the impact on the housing sector and, even then, only on the first round effects. It has not taken into account any behavioural responses that may occur (such as, changes in the type of housing demanded or supplied).

The empirical literature assesses the equity effects of *property taxes* by comparing tax liabilities to a number of different indicators of prosperity: property values, income and wealth. The findings vary, depending on the indicator chosen.

In terms of the property value, *land tax* and *conveyancing duty* are clearly progressive as their rate structures increase with value. The existence of tax-free thresholds in most States for *land tax* makes it even more progressive, thereby achieving a higher degree of vertical equity. By contrast, for all land of a similar type, the share of land value paid in *municipal rates* declines as the value increases, despite a constant marginal rate of taxation, because of the fixed charge component.

However, when measured as a share of net wealth, the first round effects of *property taxes* on owner-occupied housing are regressive (Wood 1994b, p. 9).²⁸

²⁸ Wood (1994b) does not clarify what constitutes 'property taxes'. However, in an earlier paper (Wood 1994a, p. 5), he defines property taxes as *municipal rates*, annualised stamp duties (*conveyancing duty*) and annualised *mortgage duty*. Wood (1994b) defines net wealth as total personal assets — the value of the equity in owner-occupied housing, shares,

Property taxes tend to impact more heavily on younger households (as they have less scope to diversify their assets holdings) and on those purchasing their homes (as opposed to pre-existing owners). The average effective tax rate paid by decile varies from 0.4 to 0.8 per cent (Table 7.19). When income is used as the measure of prosperity, *municipal rates* paid by owner-occupiers are also regressive (Wood 1994b, p. 9, Yates 1994).²⁹ It is not clear if this conclusion extends to *land tax*.³⁰

Table 7.19: Incidence of property taxes, Australia, 1990 (per cent)

<i>Decile</i>	<i>Rates as per cent of personal net wealth^a</i>	<i>Per cent of gross household income</i>	<i>Average effective property tax rate</i>
1 (lowest)	0.8	4.2	0.8
2	0.5	3.0	0.6
3	0.6	2.8	0.7
4	0.5	2.5	0.7
5	0.6	2.2	0.6
6	0.5	2.0	0.6
7	0.5	1.9	0.6
8	0.5	1.6	0.6
9	0.4	1.5	0.5
10 (highest)	0.2	1.2	0.4

a Net wealth includes equity in own home, net imputed income, shares, bank deposits, and equity in rental housing.

Source: Wood (1994b, p. 9).

If renters are included, the *existing property tax* arrangements are likely to be even more regressive. Renters, on average, tend to have a lower net wealth than do owner-occupiers, but rental properties, unlike owner-occupied housing, may

bank deposits and property investments — less, as a proxy for total liabilities, outstanding mortgage debt.

²⁹ Yates (1994, p. 22) raises the concern that property taxes ‘tend to be regressive with respect to income, by adversely affecting asset rich but income poor households’ (eg. pensioners and the elderly).

³⁰ Yates (1994) looked at the effect of the *land tax* exemption on owner-occupied housing. The findings were, however, curious. The value of the exemption (expressed in dollars) increased in absolute terms up to the sixth gross income decile, whereafter it declined dramatically until the tenth decile. The paper does not, however, detail how these estimates were obtained or detail why the decline occurred.

be subject to *land tax* (unless they fall below a tax-free threshold).³¹ The incidence of the *land tax* falling on renters, as opposed to landlords, will depend on the relevant elasticities of demand and supply.

Renters on low incomes and with low wealth typically find it difficult to substitute into home ownership, while the supply of public housing alternatives is limited. As a result, this class of renter will probably be more likely than any other to bear the burden of *land tax*.³² Landlords will be better placed to pass most, if not all, of the tax on as higher rents. However, virtually all owner-occupiers are exempt from the tax.

Thus, the existing *land tax* arrangements are likely to be inequitable — both from a horizontal and vertical perspective. This reinforces Wood's findings about the regressivity of *property taxes*, but does not validate his conclusion that *property taxes* per se are a poor proxy for a tax on wealth. A broad-based *property tax* applying to all landowners would strengthen the case for using *property taxes* as, an albeit imperfect substitute for, a tax on wealth. Such a tax would be considerably more progressive than the existing *land tax*.

The *land tax* exemption afforded to home owners is sometimes justified on equity grounds as a second best way of achieving parity with investors, given the way Commonwealth *income tax* operates (eg. Wood 1991, p. 79). The argument has little to do with *land tax* per se and is more concerned with the taxation of housing, and Commonwealth taxation at that. Investors can claim expenses incurred in earning rental income as an allowable deduction for *income tax* purposes (including *land tax* payments), while owner-occupiers cannot. It is argued that, if owner-occupiers were subject to *land tax*, they would not be able to claim the deductions that investors could, a result that would be inequitable. However, the *income tax* arrangements for owner-occupiers and investors would not be the same. Income generated from rental accommodation would be taxable, but the imputed income from owner-occupied housing would not.³³ Thus, the above argument only looks at part of

³¹ A number of Australian studies (eg. IC 1993a, Bourassa 1993) have found that the probability of renting decreases with income and with net wealth. The converse holds for home ownership.

³² It is possible that renters will change the type of rental accommodation demanded towards those dwellings with a lower land value. Renters may, for example, have preferred a three bedroom flat, but, because of the existence of *land tax*, may instead rent a two bedroom flat for the same amount of money. However, as the stock of housing is fixed in the short term, the resulting changes in demand may feed first into the rental prices. Some geographic relocation may also occur at the margin.

³³ Owner-occupied housing provides a stream of benefits to owner-occupiers known as imputed income.

the equity effects. If imputed income was taxable and housing-related expenses were tax deductible, the second best justification for an exemption to *land tax* for owner-occupied housing would disappear as owner-occupiers and investors would face the same *land tax* and *income tax* regimes.

During the property boom of the 1980s, concerns were raised about the adverse equity effects associated with the way *land tax* operated (and still operates today). The tax brackets which determine the marginal rate at which *land tax* is assessed are fixed in nominal, not real, terms. That is, higher land values push taxpayers into higher tax brackets and, therefore, they pay more in *land tax*. This was viewed by some to be unjust as there had not been any offsetting increase in the taxpayers' capacity to pay — the gain in land values would only be realised when the land was sold, not when the tax was paid. From an efficiency point of view it is desirable to levy *land tax* on an accrual, as opposed to a realised, basis. These concerns, however, highlight the problem of specifying rate structures in nominal, rather than real, terms.

In an attempt to overcome this, the New South Wales government indexed its tax-free threshold for owner-occupied housing to movements in the Sydney consumer price index. However, Rose (1997) pointed out that movements in the consumer price index typically understate the increase in land values. As a result, the New South Wales arrangements may have perverse equity effects, since land owners currently exempt may still be liable for *land tax* at some future date if land values continue to increase faster than the tax-free threshold. The States can overcome these problems by indexing the tax-free threshold to movements in land values rather than to the consumer price index.

While the rate structure of *conveyancing duty* appears to make it progressive, other aspects of its structure make it an inequitable tax — from both a horizontal and vertical perspective. The tax has a narrow base as it only applies to those engaged in property transfers. It does not apply to landowners of equal wealth who do not sell. Less affluent taxpayers who move will pay more tax than affluent landowners who do not move. First home buyers, those re-entering home ownership and retirees have a higher propensity to transfer residential property than do most other groups within the economy and will, therefore, contribute proportionately more revenue. These groups also tend to have relatively low incomes or net wealth. Thus, *conveyancing duty* will tend to impact more heavily on these less affluent groups. Concessions offered to first home buyers will partially offset this. Nevertheless, *conveyancing duty* is both horizontally and vertically inequitable.

Empirical research supports these conclusions. Wood (1993, p. 7) found that recent home purchasers had, on average, lower annual household incomes. They tended to have less equity in the property which also made them more

likely to be subject to *mortgage duty*. They did, however, have a lower *municipal rates* liability. Despite a progressive rate structure, Wood (1993, p. 13) found *conveyancing duty* to be regressive in relation to annual income. This finding was independent of whether the stream of benefits derived from housing (net imputed income) was classified as income or not.

In summary, comprehensive *property taxes* should, in theory, be one of the most equitable forms of taxation available to the State governments. They are a good, albeit imperfect, proxy for a wealth tax and, as such, their use should not be dismissed lightly. However, current *property taxes*, particularly *land tax*, fall well short of this ideal in practice. The narrowness of the *land tax* base, especially the exclusion of owner-occupied housing from the tax base, creates both horizontal and vertical inequalities, despite a progressive rate structure. *Municipal rates* are likely to be more horizontally equitable than *land tax* as they have a much broader base. In terms of vertical equity, *municipal rates* lack the progressive rate structure possessed by *land tax*, but their concessional arrangements are better targeted to less affluent landowners (eg. welfare recipients and pensioners).

By their very nature, *transaction taxes* are highly undesirable from an equity perspective — both horizontal and vertical. *Conveyancing duty* has a narrow base and its burden is quite independent of wealth. By taxing property transfers it penalises those who move, irrespective of their circumstances. Nevertheless, the progressive rate structure means that payments of the duty will be progressive.

Compliance costs

The cost of complying with *property taxes* is likely to be quite low. Most *land tax* assessments are generated by computer and mailed to taxpayers for payment (NSW Office of State Revenue 1995).³⁴ Taxpayers are only required to lodge a return themselves when they purchase the land, or where some change in holdings or relevant use has occurred. As assessments are also issued for *municipal rates*, the compliance costs are equally likely to be low.

The costs are likely to be somewhat higher, although still relatively low, for *conveyancing duty*. A return is required to be lodged with the revenue office specifying the details of the transaction. The revenue office calculates the amount of duty payable. Payment usually accompanies the return. Additional returns required to claim concessional arrangements would entail some additional compliance costs.

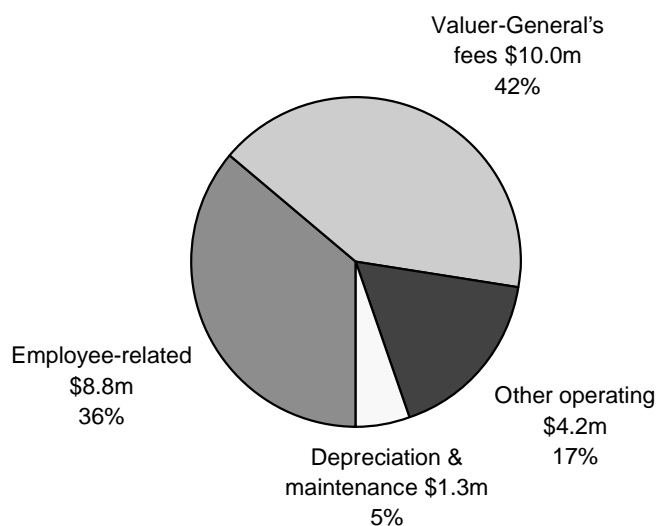
³⁴ In 1995–96, 82 per cent of all *land tax* assessments in New South Wales (67 000) were issued by computer (NSW Office of State Revenue 1996a, p. 18).

Administration costs

Land tax is a relatively expensive tax to administer, as the value of the land needs to be assessed. Every State, except Victoria, centrally values the land, and these values are subsequently used for all property taxes (including *municipal rates*). In Victoria, the valuations are undertaken by local government and standardised by the Valuer-General.

In 1996–97, *land tax* cost the NSW Government \$24.2 million to administer, or 4 per cent of total *land tax* revenue. Of that, the Valuer-General's fees accounted for \$10 million (42 per cent) (Figure 7.7). Salaries were the next biggest cost item.

Figure 7.7: Administration costs, land tax, New South Wales, 1996–97



Source: New South Wales (1997b, p. 667).

While valuing land for *land tax* purposes is relatively expensive, these valuations also form the basis of *municipal rates* levied by local government. In New South Wales, the total cost of valuing the land was \$17 million in 1995–96 (NSW Department of Land and Water Conservation 1998, p. 168).³⁵ Local government contributed \$7.3 million towards this cost, with the remainder funded by the NSW Office of State Revenue. The high administration costs of *land tax* reflect the one-off (or fixed) cost of valuing the land. Once a valuation has been completed, the marginal cost of raising additional revenue through

³⁵ The NSW Valuer-General's Office is located within the Department of Land and Water Conservation.

land tax or *municipal rates* is likely to be considerably lower than the above numbers indicate.

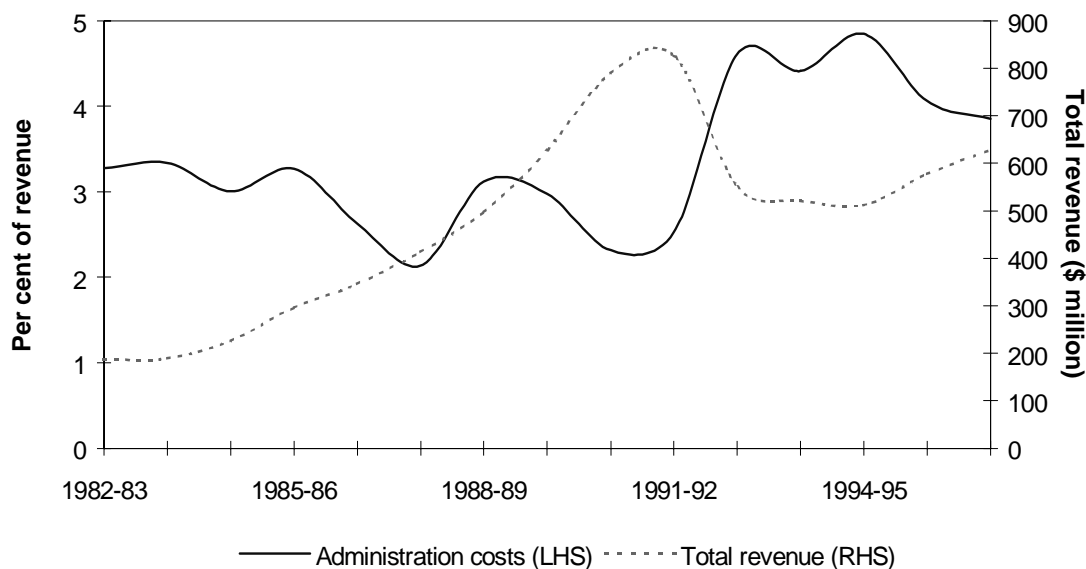
Administration costs are typically measured as a share of revenue raised to enable comparisons between taxes and over time. The administration costs have been fairly stable in real terms, but the amount of revenue raised varies considerably between years. Whilst there have been some changes in the way the NSW Office of State Revenue and its predecessor have reported administration costs since 1982–83, it nevertheless appears that aggregate administration costs have trended marginally downwards as a share of total revenue from 1982–83 to 1991–92, before rising sharply in 1992–93 (Figure 7.8). Since 1992–93, administration costs have been fairly stable. Administration costs cycle about these trends and vary from two to five per cent of total revenue.

Stamp duties are also relatively expensive to administer, but still considerably cheaper than *land tax*. It cost the NSW government \$22 million in 1996–97 to administer stamp duties, or 0.7 per cent of total revenue raised. Unfortunately, the NSW Office of State Revenue does not publish a detailed breakdown of administration costs by type of stamp duty. It is, therefore, unclear to what extent the above costs reflect the cost of administering *conveyancing duty* as opposed to the myriad of other stamp duties.

The costs of administering the other *property taxes* are unclear.

It is difficult to gauge accurately how significant evasion is for *property taxes*. If the 1994 Land Tax Amnesty in New South Wales is representative of Australia as a whole, the answer could be quite significant, somewhat surprisingly given the way the tax operates. The amnesty identified an additional 13 000 taxpayers and \$62.1 million in revenue over 1994–95 and 1995–96 (NSW Office of State Revenue 1996a, p. 16). Through other means, an additional 2 799 taxpayers were identified with a total *land tax* liability of \$9.5 million. Collectively, the additional revenue payable from these measures would account for 6.6 per cent of the combined *land tax* revenue in 1994–95 and 1995–96. The Office of State Revenue did not explain how so many taxpayers fell outside the scope of the system. The success of the amnesty, together with computerisation of *land tax* assessments, will reduce the scope for future *land tax* evasion in New South Wales.

Figure 7.8: Administration costs and total revenue, land tax, New South Wales, 1982–83 to 1996–97



Sources: New South Wales (1997b, p. 667), NSW Office of State Revenue (1988 to 1996), NSW Department of Finance (1987) and NSW Tax Task Force (1988, p. 89).

There is little empirical evidence on whether transaction-based taxes are easier to avoid and evade than property taxes. Although dated, the NSW Tax Task Force (1988, p. 104) referred to an estimate by the Office of State Revenue that ‘well in excess of \$200 million’ worth of *conveyancing duty* could have been avoided in 1987–88 through various schemes that were previously legal (at least 19.6 per cent of total duty). As the loopholes identified by the NSW Office of State Revenue have been addressed through legislative amendments, it is unclear how relevant these figures are today.

Stability of the tax base

Revenues from taxes on land move in line with underlying property values and with the level of market activity. Thus, revenues from taxes on land (both *property* and *transaction taxes*) tend to be subject to greater variability than the economy as a whole. The NSW Tax Task Force found that, over the long term, a one per cent change in gross state product (State income) led to a 1.48 per cent change in the revenue from *conveyancing duty* and a 1.12 per cent change in the revenue from *land tax* (NSW Tax Task Force 1988, pp. 114–117). The higher growth of *conveyancing duty* reflects changes in the level of activity, particularly in the residential market.

This variability has prompted many governments to introduce mechanisms to smooth the revenue stream and to reduce movements in the amount of tax payable by taxpayers. Victoria, for example, has capped payments of *land tax* at 150 per cent of the amount payable in 1993, while the ACT is using a three year average (1995 to 1997 valuations) to assess its 1998 rates.

7.3 Where to from here?

Taxes on land are an important source of State and local government revenue, raising about 29 per cent of State own-source tax revenue in 1995–96. In addition, some taxes on land, especially *land tax* and *municipal rates*, are among the most efficient taxes available to the States. However, other taxes on land, such as *conveyancing duty*, are much less desirable.

State and local government taxes on land vary in their equity impact. While, under the current arrangements, *municipal rates* are a reasonably equitable form of tax, *land tax* and *conveyancing duty* perform poorly against the equity criterion. In the case of *land tax*, the inequity arises from the exclusion of owner-occupied housing, while the burden of *conveyancing duty* bears little relation to the wealth or income of taxpayers generally.

Taxes on land also perform quite well in terms of administration and compliance costs. While the administration costs of taxes on land are relatively high, this is largely due to the need to value land in order to levy *land tax* and *municipal rates* in their current form. However, once the land has been valued, the marginal cost of raising additional revenue from these taxes, or other taxes that are based on land value, is likely to be low. In terms of compliance costs, *land tax* and *municipal rates* are among the best performing of any State tax.

Neither *property* nor *transactions taxes* perform particularly well in terms of the stability of their revenue stream, with revenues varying more than the general level of State economic activity. Revenue from *property taxes* is influenced by both land values and the level of market activity. As *land tax* and *municipal rates* depend for the most part only on land values, they tend to be more stable than *conveyancing duty*, which depends upon both land values and property sales.

A number of tax specific reform options are outlined below.

Land tax

A reform option that could potentially improve both efficiency and fairness is a broadening of the *land tax* base to include owner-occupied housing and rural properties. This could allow the rate at which *land tax* is levied to be lowered

without a loss in revenue. Alternatively, more revenue could be raised without raising the tax rate by as much as would otherwise be necessary. It is often argued that the exemption of owner-occupied housing is justified because of the households cannot deduct *land tax* for *income tax* purposes, although companies can deduct it for company tax purposes. However, this ignores the fact that imputed rents from owner-occupied housing are not included in the *income tax* base, whereas income accruing to landlords from rental accommodation is included for *income tax* purposes.

Before extending the *land tax* base to cover rural land, careful consideration should be given to the associated administrative costs. Rural properties at present tend to be exempt from both *land tax* and *municipal rates*, so that including them in the base would require the properties to be periodically valued. However, as was pointed out above, land valuations are the major component of the administration costs of *property taxes*.

Considerable scope exists in certain States to reduce the complexity of *land tax* administration, by reducing the number of tax brackets and standardising exemptions across different categories of taxpayers.

Scope also exists for States to tightened up and standardise the grouping provisions, by aggregating land on the basis of individual ownership rather than legal entity and adjusting the tax-free thresholds for land held interstate.

A common criticism of *land tax* is that asset inflation can lead to adverse equity impacts. If property values are rising in nominal terms, so that the amount of *land tax* payable is also rising, then individuals with asset portfolios dominated by land may find that they do not have enough liquid assets available to pay the tax. A measure to alleviate this problem would be to index the tax to movements in land values (not the consumer price index), so that only increases in the real value of the property resulted in a greater tax burden. This option has the advantage that increases in tax payable would be more closely linked to increases in real wealth.

A further reform option would be to abolish the *stamp duty on leases* and to instead extend *land tax* to cover leases of crown land. The amount of tax payable could be pro rated to allow for leases of crown land for periods of less than a year. This reform, coupled with the other base extensions suggested above, has the advantage of ensuring a similar tax treatment for most types and uses of land.

Municipal rates

There are no obvious changes that need to be made to *municipal rates*. As outlined above, they perform well on efficiency, equity and compliance cost

grounds, and creditably on administration cost grounds. The only drawback is that they suffer from a small degree of instability in their revenue stream relative to economic activity. The States have already made moves to alleviate this problem — for example, the ACT uses the average property value over the preceding three years when levying *municipal rates* and *land tax*. Moves towards increasing use of user pays for some services, where appropriate, are to be encouraged. Local government activities that are potential candidates for user charging include water (already on a user pays basis in some jurisdictions) and garbage and waste removal, along with entrance fees for art galleries and museums.

Contracts and conveyancing duty

As a tax on land transfers, *conveyancing duty* has the potential to inhibit the mobility of the population and prevent the optimal use of the housing stock. As with most transactions taxes, *conveyancing duty* is undesirable from both a horizontal and a vertical equity perspective. It is levied on a narrow base that penalises people who move with little regard for their wealth. Consideration might be given to abolishing *conveyancing duty* and making up the revenue by extending the *land tax* base and increasing the *land tax* rate.

Table 7.20: Revenue from State and local government taxes on land, 1995–96 (\$ million)

<i>Tax</i>	<i>Govt</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>	<i>Australia</i>
Municipal rates	Local	1 867	1 205	938	488	446	134	88	30	5 197
Conveyancing duty ^a	State	1 179	896	463	294	171	45	37	25	3 110
Land tax	State	575	393	226	159	71	30	29	–	1 483
Metropolitan improvement tax	Both ^b	–	62	12	23	–	–	–	–	97
Property owners' contribution to fire brigades	State	4	–	124	–	–	17	–	–	145
Lease duty	State	32	28	15	nsr	2	...	3	nsr	80
Other	State	22	7	9	–	7	–	6	–	42
Total taxes on land		3 679	2 591	1 787	964	697	226	163	55	10 163
Total tax revenue^c		12 562	9 640	4 932	3 143	2 468	756	519	300	34 020
Share of total		29%	27%	36%	31%	28%	30%	31%	18%	30%

a Levied as a stamp duty on the transfer of real property.

b State government tax in Victoria and Western Australia, local government tax in Queensland.

c Defined as State, Territory and local government *Total taxes, fees and fines* less *Total fees and fines*.

Sources: ABS 5506.0, State Budget Papers (various) and Grants Commission (1997a).

Table 7.21: Summary of land tax arrangements, by State, as at 1 January 1998

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i> ^a	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Tax on land owned on	31 December	31 December	30 June	30 June	30 June	30 June	1 January	–
Land valued at ^b	1 July	31 December	30 June	30 June	30 June	30 June	Rolling 3 year ave.	
Tax-free threshold	\$160 000	\$85 000	\$219 894 ^c	\$10 000	\$50 000	\$1 000	Nil	–
Number of brackets	1	8	19	7	3	10 ^d	3	–
Fixed fee ^e	\$100	\$85	Nil	\$15	Nil	\$25 ^e	Nil	–
Marginal rate:								
– at threshold	1.85% ^g	0.10%	0.20%	0.15%	0.35%	0.75% ^f	1.00%	–
– on highest value ^h	1.85% ^g	5.00%	1.80%	2.00%	3.70%	2.50%	1.50%	–
<i>Owner-occupied housing:</i>								
– subject to land tax	yes	no	no	no	no	no	no	–
– tax-free threshold	\$1 million	na	na	na	na	na	na	–
– threshold indexed to	Sydney cpi	na	na	na	na	na	na	–

a Excludes *Metropolitan region improvement tax* that is levied at the rate of 0.15 cents per dollar on the unimproved value of land within the metropolitan region.

b Land valued as of date indicated. The dates for all States, except New South Wales, relate to the previous year.

c Effective tax-free threshold for natural persons (individuals) given that the minimum amount of land tax payable is \$100 and that all taxpayers are entitled to a 5 per cent rebate. The actual thresholds are \$200 000 for natural persons and \$100 000 for companies, trustees and absentees.

d The number of tax brackets will reduce to 5 for the 1998–99 financial year and 4 for 1999–2000.

e Fixed fee applying immediately above the tax-free threshold. In Victoria, Queensland, Western Australia, South Australia and Tasmania, the fixed fee varies between valuation brackets. In all States, except New South Wales, the fixed fee generally represents the cumulative effect of previous tax brackets.

f The fixed fee applies to all land valued at between \$1 001 and \$15 000. The marginal rates structure then applies to all land valued in excess of \$15 000.

g From 1 January 2000, this will be reduced to 1.7 per cent.

h In all States, except Queensland, the highest marginal rate applies to properties with the highest unimproved capital value. In Queensland, the highest marginal rate of 3.3 per cent applies to the second highest tax bracket (properties valued at between \$1 450 000 and \$1 499 999 over the relevant tax-free threshold).

DIRECTIONS FOR STATE TAX REFORM

Sources: NSW Treasury (1997, pp. 18–19), Victorian State Revenue Office (1998) and State Budget Papers (various).

8 FINANCIAL TAXES

The current mix of State financial taxes consists of a large number of taxes, most of which are levied on relatively narrow bases and at differing rates. This distorts the incentives facing both consumers and producers of financial services, resulting in potentially significant efficiency losses. Furthermore, a number of these taxes are inequitable, due either to a legislative cap on the maximum amount of tax payable on any given occasion, or to the tax consisting of a fixed charge irrespective of the size of the transaction being taxed. If State budget constraints require some revenue to be raised from the finance sector, a single, broad-based transactions tax is suggested as an option worth considering by the States. It is important that the definition of the base for such a tax be uniform throughout Australia.

8.1 Overview

What are financial taxes?

States levy a myriad of taxes on various financial transactions and instruments. The focus in this chapter is on the taxes that directly affect portfolio balance decisions and financing arrangements (Table 8.1). Distinguishing taxes that meet this criterion is not straightforward. For example, *conveyancing duty*, by increasing the relative price of land, influences decisions to hold land as an asset and, hence, has the characteristic of a finance tax. However, the view here is that a stronger case can be made for categorising this tax as a tax on land. Similarly, insurance taxes have been categorised as service taxes in this paper.

Traditionally, State financial taxes consisted solely of various stamp duties. However, the mix of State taxes on financial arrangements has changed substantially since the early 1980s. Indeed, over half of the revenue raised by the States from financial taxes now comes from taxes that were not levied prior to 1983. Technologically induced changes to Australia's financial system have led to this change. A particularly important change has been the development of electronic commerce and the associated broadening of the range of substitute financial services available to consumers. In turn, these factors have important implications for the future direction of State financial taxation, as will be seen below.

Table 8.1: State financial taxes, as at 1 January 1998

<i>Tax</i>	<i>States levying the tax</i>
Agreements duty	All, except for Queensland and the ACT
Bank account debits tax (debits tax) (BAD tax)	All ^a
Cheque duty	Western Australia
Credit card transactions duty	Queensland and Tasmania
Debits duty	Tasmania ^a
Discount transactions duty	Queensland
Electronic banking duty	Northern Territory
Financial institutions duty (FID)	All, except Queensland
Hire-purchase arrangements duty	New South Wales, Victoria, Queensland, Tasmania and the ACT ^b
Hiring arrangements duty	All
Loan (mortgage) security duty	All, except for the Northern Territory and the ACT
Loans duty	Queensland and Tasmania
Marketable securities (share transfer) duty	All

a Technically, Tasmania has not levied *BAD tax* since January 1994, when *BAD tax* was rolled into *debits duty*. This chapter follows NSW Treasury (1998, p. 12) by decomposing Tasmania's *debits duty* into an implicit *BAD tax* and a residual *debits duty* of 15 cents per debit.

b This duty is identical to *hiring arrangements duty* in New South Wales, Victoria and the ACT.

Sources: NSW Treasury (1998) and State Budget Papers (various).

Taxes on financial arrangements are sometimes referred to as capital taxes. The financial instruments considered in this chapter, such as secured loans and marketable securities, are important, but by no means the only methods of financing the acquisition of physical capital. To the extent that taxes on these instruments raise the cost of funds for financing capital investment and lead to less efficient financing methods or a smaller capital stock, they impose important costs on the economy.

The measurement of such costs requires an assessment of the impact of taxes on financial instruments upon the process of capital accumulation. Diewert and Lawrence (1997) note that the conceptual and implementation difficulties involved in building dynamic models which are appropriate for this task have led to very few attempts to quantify such costs.

Diewert and Lawrence estimate the marginal excess burden of capital taxation in Australia over the period from 1967 to 1994. While it fluctuated between a low of 21 per cent and a high of 28 per cent over the period from 1967 to 1983,

the marginal excess burden of capital tax grew steadily throughout the 1980s and early 1990s to reach a peak of 48 per cent in 1994, the last year for which estimates are provided.

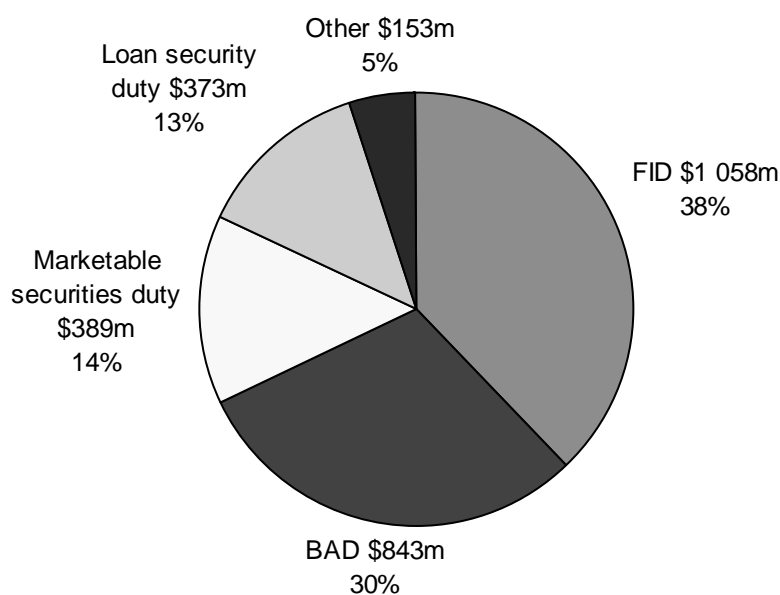
However, the Diewert and Lawrence study includes a number of Commonwealth taxes and non-financial State taxes. Furthermore, in practice, the study aggregates taxes that primarily affect the returns to saving with those that raise the cost of financing investment. In a small open economy, these taxes have different economic effects and should be treated separately.¹ Some of the financial instruments considered in this chapter assist in the financing of capital investment, but others perform different functions. For example, savings and cheque accounts are means for individuals to store their financial wealth and access the payments system. Thus, while the effect of taxes on investment is important, such costs provide only part of the picture. The effect of financial taxes on the portfolio choices and transactions behaviour of both firms and individuals also needs consideration.

How significant are financial taxes?

Taxes on financial transactions accounted for just under \$3 billion in 1995–96, or approximately 8 per cent of total State tax revenue (Table 8.5 at the end of this chapter). This represents an Australia-wide average of \$154 in financial taxes per person per year. The bulk of this revenue, indeed 95 per cent of it, comes from only four taxes — *financial institutions duty (FID)*, *bank account debits tax (BAD tax)*, *marketable securities duty (MSD)* and *loan security duty (LSD)*. Given that the remaining financial taxes raise only a small amount of revenue, it is worth examining their viability in light of the associated administration and compliance costs.

Among these four major financial taxes, there is a great deal of disparity in revenue raised (Figure 8.1). *FID* (\$1 058 million) and *BAD tax* (\$843 million) raise a great deal more revenue than either *marketable securities duty* (\$390 million) or *loan security duty* (\$373 million). The two main financial taxes alone account for more than 65 per cent of all revenue from financial taxes Australia-wide.

¹ The study also fails to distinguish debt versus equity financed investment, whereas the tax treatment of the two differs.

Figure 8.1: Revenue from State financial taxes, Australia, 1995–96^a

a Other comprises stamp duty on credit business and cheque duty.

Sources: Grants Commission (1997a and personal communication).

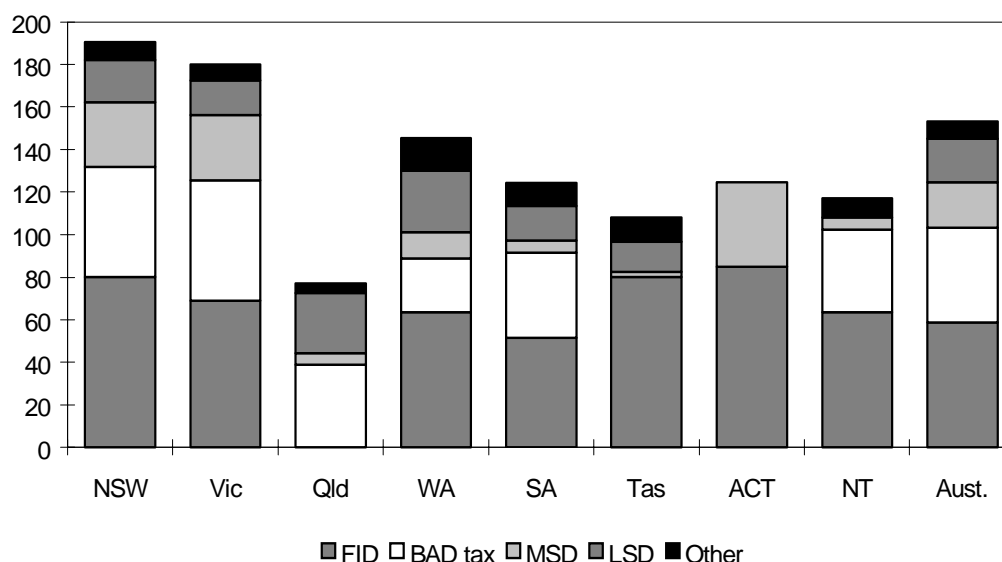
The importance of financial taxes as a source of revenue varies considerably between States, as does the relative mix of taxes used (Figure 8.2). Reflecting Sydney's importance as a financial centre, New South Wales collected more financial taxes on average than did any other State or Territory in 1995–96 (\$190 compared with the Australian average of \$154 per person). The ACT recorded the highest per capita receipts from *FID* (\$85 per person) and *marketable securities duty* (\$40 per person).² Victoria recorded the highest receipts from *BAD tax* (\$56 per person). Western Australia had the highest per capita receipts of *loan security duty* and *other financial taxes* (\$29 and \$15 per person, respectively). In line with its claim to be the low tax State, Queensland collected the least financial taxes (\$78 per person), reflecting the absence of *FID* in that State. However, if *FID* is excluded, the ACT had the lowest level of financial taxation (\$40 per person).

In terms of relative importance as a source of revenue, the ACT was most dependent on *FID* in 1995–96 (68 per cent of financial tax revenue). Queensland was the most dependent on *BAD tax* (51 per cent). The ACT relied more on *marketable securities duty* than did any other State (32 per cent of

² The ACT has subsequently introduced *BAD tax* and lowered its rate of *FID*.

financial tax revenue).³ *Other financial taxes* were most important in Tasmania (11 per cent).

Figure 8.2: Per capita revenue from State financial taxes, by type of tax, 1995–96 (\$ per person)^a



a Other comprises stamp duty on credit business and cheque duty.

Sources: Grants Commission (1997a and personal communication).

Previous studies

A number of previous studies have incorporated some consideration of the States' financial taxation arrangements. The two most recent inquiries into Australia's financial system — the Campbell Committee's inquiry (Campbell et al 1981) and the Wallis Committee's inquiry (Wallis et al 1996, 1997) — have mentioned State taxation arrangements. The Prices Surveillance Authority included some recommendations relating to State financial transactions taxes in its inquiry into bank fees and charges (PSA 1995). Victoria and New South Wales have held inquiries into the tax systems of their respective States (VCIRR 1983, NSW Tax Task Force 1988). Both of these inquiries included consideration of financial taxes. The main recommendations of these studies are summarised below.

³ One possible reason is the absence of *loan security duty* in the ACT, which has encouraged shares to be transferred to an ACT register before being mortgaged. Most States are now taking action against this avoidance device. Commonwealth Government privatisation floats have also increased the ACT's off-market *marketable security duty* revenue — both the Commonwealth Bank and Telstra are incorporated in the ACT.

The Campbell Committee explicitly considered the taxation of financial intermediaries and transactions in its final report. It suggested that the ‘total abolition of specific duties in the financial area has much to commend it.’ (Campbell et al 1981, p. 263). The Campbell Committee recognised that such a move would be feasible only if the lost revenue was replaced, either through Commonwealth compensation or another tax. If the replacement tax was to be levied on financial transactions or instruments, then

... from the point of view of tax neutrality and hence the efficiency of the financial system, the preferred form of levy is that ... for similar kinds of financial transactions there be an Australia-wide uniform duty so structured as not to impact on the choice of financing arrangements. (Campbell et al 1981, p263)

The Wallis Committee considered financial taxes when examining the various factors that influence the competitiveness of firms operating in the financial system in Australia and the efficiency of the financial system. It was suggested that the variety of transactions taxes imposed at different rates on different transactions in Australia ‘... directly restrain the development of a number of domestic financial activities’ (Wallis et al 1997, p. 133).

The Prices Surveillance Authority’s report on bank fees and charges made three recommendations relating to State financial taxation. First, it recommended that the States give consideration to the appropriateness of replacing *FID* and *BAD tax* with a single transactions tax, on the grounds that it ‘would result in administrative cost savings, and provide an opportunity to design the tax in a way that is least distortionary and inequitable’ (PSA 1995, p. 84). The PSA also recommended on equity grounds that State governments extend the exemption from *FID* of Department of Social Security payments into recipient accounts to all transaction taxes on those accounts. The PSA’s final recommendation was that the State governments should consider making transaction tax arrangements, such as *FID* and *BAD tax*, uniform across the States. The PSA claimed that interstate differences in tax rates and exemptions resulted in outcomes that were both inequitable and inefficient.

The VCIRR, in its report on revenue raising in Victoria, recommended that, in the medium to long term, the ‘majority of stamp duties should be abolished and replaced by a broad-based tax’ (VCIRR 1983, p. 340). It also recommended that the Victorian Government ‘persist with *FID*; continue efforts to ease its anomalies, provided the tax base is not eroded; and watch for possible capital market distortions’ (p. 388). The Committee further recommended that the Victorian Government ‘continue to encourage more complete harmonisation of *FID* between Victoria and New South Wales; and to seek harmonisation among all States and Territories by introduction of *FID*, if broader-based taxes or

additional Commonwealth revenue through a Federal-State financial contract are unavailable' (p. 388).

The NSW Tax Task Force, in its report on the New South Wales tax system, recommended that a number of then existing stamp duties be abolished, that a new stamp duty on futures contracts be introduced, that the short-term dealers concession rates for *FID* be adjusted so that they were commensurate with the duty payable by short-term dealers on other transactions and that the issue of raising the level of contributions from short-term dealings in New South Wales be considered. Greater harmony between the States with respect to financial tax regimes was considered desirable.

There are a number of common themes in these reports. In particular, there is a concern about the potential distortionary effects of the current financial tax mix, arising from its non-neutrality with respect to finance instruments. Similarly, there is a concern about disparities among the States with respect to individual taxes. Given that a similar set of concerns have been expressed by a number of bodies over a number of years, it is surprising there has not been more action on the part of the States directed towards implementing the recommended reforms. However, a number of changes have been made in response to the recommendations of some of the above reports. For example, most of the States have abolished *cheque duty* and a number of other minor duties in favour of *FID*.

8.2 Financial institutions duty

How does FID work?

FID is levied in all States, except for Queensland, on 'the value of receipts at financial institutions and on the average daily liabilities of short-term money market dealers' (NSW Treasury 1998, p. 1). Except in South Australia, the duty is levied at a rate of 0.06 per cent of the value of these transaction. In South Australia, *FID* is imposed at a rate of 0.065 per cent, consisting of the standard State government rate of 0.06 per cent and a 0.005 per cent levy imposed on behalf of the local governments in South Australia. The maximum amount of duty payable on any transaction is \$1 200 in all jurisdictions (equivalent to a \$2 million transaction), except for the Northern Territory where it is \$1 500 (equivalent to a \$2.5 million transaction). Payments occur on a monthly basis in arrears (that is, on the previous month's transactions). Although the tax is legally levied on the financial institutions, they can pass the tax on to their customers.

For the purposes of *FID* legislation, most States use the term financial institutions to cover banks, dealers, trustee corporations, parties whose sole or principal business is the provision of finance and some management companies. Most States explicitly exclude some insurance companies, superannuation schemes, health and medical benefits organisations, and pastoral finance companies from the definition of financial institutions for the purposes of levying *FID*. Some dealers who trade securities only in a role as the receiver or trustee of a company, or who only trade their own debentures, may also be excluded from the definition of a financial institution.

Many transactions are exempt from *FID*. The major exemptions are for: the direct crediting of social security and veterans affairs pensions; foreign exchange dealings and products; public benevolent and religious bodies; public and private hospitals; schools, colleges and universities; non-business activities of local government and State government departments; and offshore banking units (Swan 1996).

Short-term money market transactions attract concessional rates of *FID*. According to Swan (1996, p. 21), the concession was introduced 'as the imposition of *FID* at the full rate would make these transactions uneconomic because of their small margin and high turnover'. These arrangements vary between States. In New South Wales and Victoria, the concessional rate is 0.005 per cent per month on one-third of the dealer's average daily liability in that month. In the ACT, the concessional rate is 0.005 per cent per month on the entire average daily liability of the dealer during that month. In South Australia, Tasmania and the Northern Territory, the concessional rate is 0.005 per cent per month on the average daily liability of the bank to the account holder under that account for the month.

History of FID

A number of factors led to the introduction of *FID*. One was a recommendation from the Campbell Committee that sought the States' agreement to abolish the then existing set of stamp duties and replace them by a single, Australia-wide duty that would apply, at a common rate, to similar types of financial transactions and instruments (Campbell et al 1981). It is worth noting that, while some of the then existing stamp duties have since been abolished, a number still remain. Furthermore, those abolitions did not take place immediately, but were spread out over the following decade.

Another important factor underlying the introduction of *FID* was the declining importance of existing tax bases. The importance of cheque-based payments, for example, has gradually fallen since the early 1980s as electronic banking and credit cards have gained in popularity. In 1980, cheques accounted for

about 80 per cent by number, and almost 100 per cent by value, of non-cash payments. By 1995, cheques accounted for only 40 per cent by number and 35 per cent by value (RBA 1996a, p. 27). Against this, the actual number of cheques issued in 1995 was about 33 per cent greater than in 1980 (RBA 1996a, p. 27). Given that *cheque duty* was levied on a per cheque basis, the revenue base for cheque duty, therefore, expanded over this period. However, the NSW Tax Task Force (1988, pp. 258–259) reported that, in real terms, *cheque duty* revenue fell. More importantly, the share of *cheque duty* revenue in *stamp duty* collections declined significantly. The revenue raising potential of *cheque duty* was further limited because it was levied as a flat rate per transaction, irrespective of the size of the transaction. These developments led Victoria to abolish *cheque duty* on 1 July 1983, with most other States following suit over the next decade. Only South Australia and Western Australia still retain *cheque duty* today.

The States introduced *FID* to give them access to a broader, value-based tax on financial services. A number of changes have been made to *FID* since its inception, by each of the States that levy it. These have involved changes to the rates at which it is levied, the cap on the maximum amount of *FID* payable per transaction and changes in the scope of dutiable transactions. Examples of such changes are provided in Table 8.2. It is clear from these examples that, while the States have tended to follow each other over time with their *FID* arrangements (with the obvious exception of Queensland), these arrangements are certainly not uniform across States.

FID was first introduced in New South Wales and Victoria in January 1983 (Table 8.2). With the exception of Queensland, which still does not levy *FID*, the remaining States gradually followed suit over the next six years. Australia, however, is the only OECD country that levies a transactions tax on deposits at banks (Pender 1997, p. 71).

Average effective rates of FID

An effective tax rate schedule describes how the average nominal rate of taxation varies as the base upon which it is levied grows. In situations where the nominal tax rate is not expressed as a flat proportion of the base, such as the familiar tiered structure of progressive tax regimes, or where ceilings or floors on the tax base exist, the effective tax rate concept will differ from any particular statutory rate. Two types of effective tax rates for *FID* are reported below. First, the effective tax rate for *FID* is expressed as a function of the size of a particular dutiable receipt. Second, the prevailing average effective tax rate for financial transactions taxes as reported by the Grants Commission is discussed.

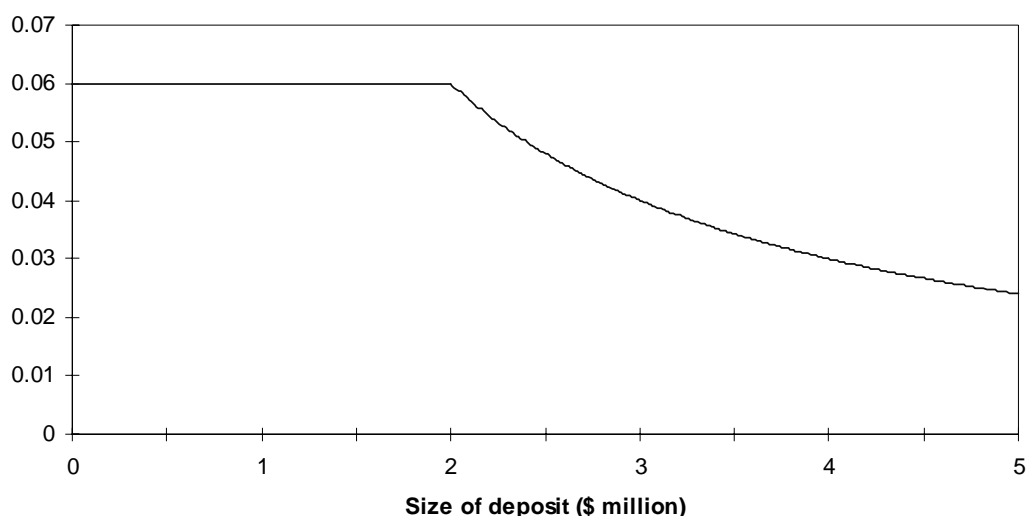
Table 8.2: A brief history of FID, 1983 to 1997

<i>Date</i>	<i>Event</i>
1983	Vic. and NSW introduce FID at a rate of 0.03 per cent.
1984	SA and WA introduce FID at rates of 0.04 per cent and 0.05 per cent, respectively; WA exempts local municipal councils from FID, including their commercial activities; NSW exempts the foreign exchange dealings of licensed non-bank financial institutions from FID; Vic. exempts daily foreign exchange dealings from FID.
1985	WA lowers its FID rate to 0.03 per cent and changes the coverage of FID to incorporate foreign exchange hedging and futures contracts and to exclude credit providers, telegraphic interstate funds transfers and normal daily foreign exchange dealings; SA exempts normal foreign exchange dealings and inter-bank clearing transactions from FID; NSW, Vic., SA and WA exempt pension payments from FID; NSW exempts receipts by banks that were derived solely from their own interstate business from FID.
1986	WA reduces its FID rate to 0.025 per cent; Tas. introduces FID at a rate of 0.04 per cent.
1987	The ACT introduces FID at a rate of 0.03 per cent.
1989	Vic. exempts some internal and interstate banking transactions from FID and raises the FID ceiling from \$300 to \$600 per transaction; NSW exempts some receipts relating to bills of exchange from FID and raises the FID ceiling from \$300 to \$600 per transaction; NT introduces FID.
1990	SA raises its FID rate to 0.1 per cent; Vic. and WA raise their FID rates to 0.06 per cent; the ACT exempts rollovers of commercial bills, a portion of the rollover from term deposits and receipts arising from the merger of a financial institution from FID.
1992	The ACT raises its FID rate to 0.1 per cent; NSW announces exemptions from FID for offshore banking units; Tas. grants exemptions from FID for self-rollovers of bank bills.
1997	The ACT lowers its FID rate to 0.06 per cent.

Sources: NSW Treasury (1996, 1998), Hawtrey (1993), ATRF (1989) and VCIRR(1983).

As described above, *FID* is levied as a fixed percentage of deposit size, subject to a ceiling on the maximum amount of *FID* payable per deposit. Up until the ceiling is reached, the effective rate of *FID* is constant, coinciding with the statutory rate of *FID*. Once the ceiling is reached (generally for deposits in excess of \$2 million), the effective rate of *FID* diminishes hyperbolically as the size of the deposit increases (Figure 8.3).

Figure 8.3: Effective FID tax rate, New South Wales, 1 January 1998
(per cent)



Source: NSW Treasury (1998, p. 12).

The Grants Commission reports an average effective tax rate for a category they call ‘financial transactions taxes’, which covers *FID*, *BAD tax*, *loan security duty* and *stamp duties* on credit business, leases, and cheques. Clearly, with all of these taxes being levied on different bases, it is necessary to find some estimate of the aggregate base for taxes on ‘financial transactions’. The Grants Commission approximates each State’s financial transactions tax base by total State private expenditure, adjusted to take account of the relative size of capital markets in each State. This approach has a precedent in the literature on estimating aggregate money demand functions, in which gross domestic product is often used as a proxy for the desired number of transactions in a given time period. On this basis, Victoria and New South Wales had the highest average effective tax rates for financial transactions taxes in 1995–96, at 0.74 per cent and 0.72 per cent, respectively (Table 8.3). Most other States were clustered just below this level, with the exceptions of Queensland, the ACT and the Northern Territory, which had relatively low average effective tax rates of 0.41 per cent, 0.44 per cent and 0.57 per cent, respectively. Queensland did not levy *FID*, while the ACT did not levy either *BAD tax* or *loan security duty*, although the ACT did impose a higher rate of *FID* than most States.

Table 8.3: Average effective financial tax rates, by State and type of tax, 1995–96 (per cent)

<i>State</i>	<i>Financial transactions taxes^a</i>	<i>Marketable securities duty</i>
New South Wales	0.72	0.10
Victoria	0.74	0.10
Queensland	0.41	0.10
Western Australia	0.66	0.10
South Australia	0.68	0.10
Tasmania	0.70	0.10
Australian Capital Territory	0.44	0.13
Northern Territory	0.57	0.10

a Financial transactions taxes include *FID*, *BAD tax*, *loan security duty*, *stamp duty on credit business*, *cheque duty* and *stamp duty on leases*.

Source: Grants Commission (1997b, pp. 77 and 86).

Efficiency of FID

Broad-based consumption taxes are often promoted as a relatively efficient method of raising a given amount of revenue. Consumption taxes normally apply only to the value added by a particular production process. This outcome may be achieved in a number of ways, including restricting the application of the consumption tax to final goods and services (as opposed to business inputs), taxing only the value added at each stage of a production process, or taxing sales but then rebating tax paid on intermediate inputs. However, it is difficult to tax the sales or value added for ‘financial services’ directly. Not only is it difficult to define the relevant services, it is difficult to identify the payments for those services, although less so now that financial institutions are starting to charge on a fee-for-service basis (rather than relying for their revenue on the margin between borrowing and lending rates of interest).

Three potential ways of coping with this problem were suggested by the then Commonwealth Government in its 1985 draft white paper on reforming the tax system. These were lower rates of tax on financial services, the exclusion of financial services from the tax base, or taxing inputs into financial services (Commonwealth of Australia 1985). To this a fourth category could be added, namely, taxing a combination of the fees and charges levied by financial institutions and the interest rates paid by them. This option is discussed in more detail later in this chapter. Neither *FID* nor most other financial taxes fall into these categories.

FID is levied on particular transactions in particular accounts. To the extent that such transactions are an input into the financial service being provided by the financial institution to its customers, *FID* could be considered an input tax. This was not the interpretation envisioned in the 1985 draft white paper, however. In discussing input taxes, the draft white paper focused on capital and material factor inputs, such as computers, stationery and other goods and services used by financial institutions, rather than transactions (Commonwealth of Australia 1985, p. 122). Since the final products of the financial sector are difficult to tax directly, it may be possible to design an input tax applying only to the financial services sector that nevertheless avoids cascade effects (eg. a targeted *payroll tax*).

An alternative, and perhaps more plausible, interpretation of *FID* is that transactions are being used as a proxy for the value customers place on particular accounts. This raises the question of how good a proxy they are. Clearly, different accounts serve different purposes. High interest, long-term deposit accounts are a relatively safe form of investment and may well form part of an individual's asset portfolio. The service provided to customers is the intermediation service — the financial institution, rather than the customer, on-lends the customer's deposits to borrowers who generate the interest payments. For these accounts, the number or size of deposit transactions may be a poor proxy for the value of the service, although the interest earned may be a slightly better one. With overdraft and mortgage accounts, the service provided is also primarily an intermediation service, but from the borrower's perspective. General savings and cheque accounts are for the most part used to store funds for everyday purchases, allowing access to the payments system. For these accounts, the value of deposit transactions arguably may be a reasonable proxy for the value of the service.

Banks and other financial institutions are increasingly making explicit user charges for various services. These could be used as a basis for taxation along a similar line to the use of price or expenditure as a basis for some forms of consumption tax. Three potential candidates suggest themselves as possibilities for use as financial service output proxies, namely, transactions, such as deposits into or withdrawals from particular accounts, the interest paid or earned by various accounts, and charges levied by financial institutions. This issue is discussed in more detail later in this chapter.

The advantage that *FID* has over the other financial taxes is that it covers a broader range of financial services. *BAD tax*, for example, is restricted to accounts with cheque facilities, whereas *FID* applies to all accounts at financial institutions. For this reason, *FID* is less likely to distort the optimal means of producing a given financial service. However, the 'tax everything that moves'

approach that has been developed in an attempt to circumvent tax avoidance possibilities may have some undesirable effects. Because *FID* is levied on each transaction, irrespective of purpose, there is the potential for a single economic event to incur multiple *FID* charges. For example, suppose that when a customer makes a deposit, the bank initially allocates the money to a temporary holding account. At the end of trading that day, the bank then transfers the money in this holding account to the customer's savings account. In theory, the single economic action of depositing money into a savings account would in this case incur two *FID* charges. Other, more complex scenarios, in which a single action results in more than two *FID* charges can be constructed (Hawtrey 1993). Thus, *FID* has the potential to distort the operating procedures of financial institutions away from the least cost means of providing the banking service. In an attempt to overcome this problem, some States have exempted certain internal bank transactions from *FID*.

A major problem with *FID* in its current form is the 'cascade' effect. Because the tax is levied on transactions, a production process involving a number of different parties (say a producer, a wholesaler and a retailer) will incur more *FID* than the same process carried out by a vertically integrated firm. When the producer deposits the proceeds from selling produce to the wholesaler, *FID* is incurred. Similarly, when the wholesaler sells the packaged produce to a retailer and deposits the proceeds, *FID* is again incurred. Finally, when the retailer sells the final product to a consumer and deposits the revenue from the sale, *FID* is once again incurred. An integrated firm, however, would only incur *FID* on the sale of the final product to consumers. Thus, a vertically separated production process is disadvantaged by the nature of *FID*. At the margin, integration is encouraged whereas specialisation and trade is discouraged, so that *FID* distorts decisions relating to the boundaries of firms (Swan 1996, Hawtrey 1993). Indeed, this criticism applies to other cascade taxes and is one of the reasons that countries with a consumption tax levy it only on the value added by each stage of production. But as was noted above, measuring the 'value added' by individual financial services has in the past been difficult.

The ceiling on the maximum amount of *FID* payable per transaction provides incentives for firms to bundle their transactions. The reason for this can be seen in Figure 8.3 (earlier). For deposits over \$2 million, the average rate of tax is lower than for smaller transactions. Thus, if a firm bundles a number of smaller deposits that sum to over \$2 million into one large deposit, it will pay less tax. This effect may discourage the use of electronic funds transfer at point of sale, 'as transactions paid by EFTPOS cannot be bunched in order to gain the benefit of the cap' (Swan 1996, p. 23). While the large sums involved suggest that this may be a problem only for relatively large firms, the Wallis Committee noted

that they had received submissions from Westpac and the Australian Bankers' Association:

... that argued that FID and debits tax were impeding the adoption of financial electronic data exchange and electronic commerce by business ... [because, unlike paper-based instruments, with] electronic deposits it is not always possible to aggregate deposits. (Wallis et al 1996, p.318)

In comparison with other financial taxes, *FID* is a relatively efficient tax owing to its broad tax base. Unlike other more narrowly-based financial taxes, *FID* is less likely to distort financing decisions as it applies to nearly all deposits in all accounts, irrespective of the type of financial institution. It is levied at a uniform rate (except for short-term money market transactions) with few non-standard exemptions, except for security trading. In comparison, the narrow base of *BAD tax* penalises cheque-based accounts held with banks and favours alternative means of payment (such as credit cards, cash and EFTPOS) and accounts held with other financial institutions.

The exemptions that apply to *FID* are, for the most part, the standard exemptions for hospitals, educational institutions and the direct crediting of pensions. While it may be possible to lower the distortion associated with raising the current revenue from *FID* by removing these exemptions and lowering the rate at which *FID* is applied, this would have adverse equity implications. Indeed, ACOSS in its submission to the PSA's inquiry into bank fees and charges recommended that low income government benefit recipients should have at least one account exempt from both *FID* and *BAD tax*, a position that goes beyond the current exemption which applies only to the direct crediting of social security payments (PSA 1995, p. 82). The two exemptions that do not appear to have an equity justification are those for foreign exchange dealings and products, and offshore banking units. It is possible that these exemptions exist because their base is particularly mobile. In this event, removing the exemption would not result in a permanent increase in the revenue earned from *FID*, so that the current rates of duty could not be lowered to reduce the distortion.

In order to move beyond a qualitative study of the efficiency of the current *FID* regime, it would be necessary to have, at the very least, estimates of the elasticity of demand for the use of dutiable accounts, preferably on a State by State basis. Unfortunately, not much is known about these elasticities, or the corresponding elasticities for the other State financial tax bases in Australia (Freebairn 1997a). For this reason, it has not been possible to calculate estimates of either the total deadweight loss or the marginal excess burden for most of the State financial taxes.

While the distortions on financing and payment mechanisms may, individually, appear small, they could result in a significant economy-wide effect. Financial services account for about 2.3 per cent of total supply in Australia, and approximately 80 per cent of financial service ‘sales’ are inputs to other business activities (ABS 5209.0).⁴ It is clear, then, that financial services are an important means of facilitating most other economic activity. The efficient operation of the financial sector is, therefore, of paramount importance.

Equity aspects of FID

In order to assess the implications for equity of *FID*, data on the distribution of *FID* payments by income group are needed. However, the Prices Surveillance Authority noted in its inquiry into bank fees and charges that data relating to *FID* and *BAD tax* payments on particular accounts were very limited (PSA 1995, p. 82). It reported ACOSS as claiming that *FID* and *BAD tax* were often a serious problem for many low income people, with *BAD tax* being the main problem. It reported the National Australia Bank as claiming that over 65 per cent of the interest earned on accounts with a minimum monthly balance below \$500 is paid to State Governments in the form of *FID*. If those accounts have a cheque facility, then a further 550 per cent of the interest is taken by State Governments as *BAD tax*. If an average 39 cents in the dollar income tax is included, interest earned by individuals with a small minimum monthly balance is effectively taxed at about 650 per cent. The analogous tax rate for accounts with minimum monthly balances over \$500 is 93 per cent. To the extent that accounts with low minimum monthly balances belong to low income people, then *FID* and *BAD tax* would appear to be highly regressive.

Administration costs of FID

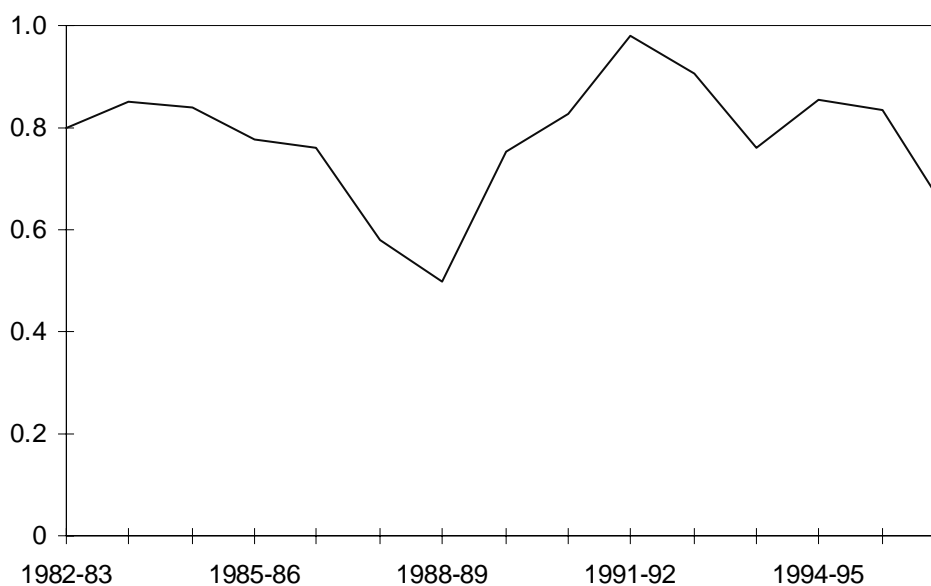
The NSW Office of State Revenue does not publish the costs of administering financial taxes — either individually or in aggregate. However, the NSW Office of State Revenue publishes the cost of administering *stamp duties*, a somewhat wider category than financial taxes owing to the presence of stamp duties on motor vehicles, insurance and land transfers (*conveyancing duty*).

In aggregate, *stamp duties* are cheaper to administer than most State taxes in New South Wales, with administration costs accounting for less than one per cent of revenue raised in 1995–96 (Figure 8.4). This makes *stamp duties* cheaper to administer than *franchise fees* and *land tax*, but more expensive than

⁴ The financial services data used here are obtained by aggregating the *banking, non-bank finance, financial asset investors*, and *services to finance* categories from the 1993–94 Australian National Accounts input-output tables (ABS 5209.0).

payroll tax. To the extent that these costs reflect the costs of administering financial taxes, financial taxes would appear to be one of the cheaper State taxes to administer. However, there may be differences in the costs of administering the individual taxes that make up the ‘stamp duties’ category.

Figure 8.4: Administration costs, stamp duties, New South Wales, 1982–83 to 1996–97 (percentage of revenue collected)^a



a Also includes non-financial stamp duties relating to motor vehicles, insurance and land transfers (*conveyancing duty*).

Sources: New South Wales (1997b), NSW Office of State Revenue (1988 to 1996), NSW Department of Finance (1987) and NSW Tax Task Force (1988, p. 89).

Compliance costs of FID

According to Hawtrey:

FID is perhaps the most complicated tax in Australia, making it difficult to computerise routinely ... [with one bank estimating] that the cost to set up systems to exempt an account ... [equalling] about three years revenue. (Hawtrey 1993, p. 275)

While Hawtrey’s comments on the complexity of *FID* suggest that there would be large compliance costs, the NSW Tax Task Force reported that, although:

Complications appear to arise in the determination of *FID* liability for certain complex transactions, ... a de facto system of unaudited assessment seems to minimise costs arising from these complications. (NSW Tax Task Force 1988, p. 98)

However, anecdotal evidence suggests that financial institutions find it difficult to comply with *FID*. In 1995–96, audit activity by the Victorian State Revenue Office identified more outstanding *FID* than any other State tax. These investigations identified in excess of 4 per cent additional revenue, almost twice the next highest State tax, *tobacco franchise fees*, with just over 2 per cent of additional revenue (Victorian State Revenue Office 1996, pp. 9 and 60). Similar audits undertaken by the State Revenue Office in 1994–95 produced similar results.

The Victorian State Revenue Office reported that a group of representatives from 13 industry groups, along with State taxation commissioners, had met in January 1996 to discuss potential reforms to financial transactions taxes (Victorian State Revenue Office 1996, p. 20). Apparently the representatives favoured the abolition of *FID*, but agreed to assist in developing proposals to improve the current operation of *FID*. The objectives of the reforms were to lower compliance costs, simplify legislation and rulings, increase consistency and harmony across the States, achieve equity between financial institutions and their business customers, and protect revenue. Proposed reforms included amending legislation with respect to aggregated electronic transactions, clearance and settlement accounts, transfers of funds between jurisdictions, short-term money market dealings and the definitions of the terms ‘receipt’ and ‘account’.

8.3 Bank account debits tax

How does BAD tax work?

BAD tax is levied on the value of withdrawals from bank accounts with a cheque facility, whether the cheque facility is used or not. This contrasts with *FID*, which is levied on deposits into a considerably broader range of accounts. While it is the bank at which a dutiable account is held that is legally liable for paying *BAD tax*, the bank is allowed to pass the tax on to its customers. *BAD tax* payable on a dutiable withdrawal in New South Wales must be paid within 14 days of the completion of the month in which the dutiable withdrawal was made.

For non-bank financial institutions (NBFIs), such as credit unions, only cheque withdrawals incur *BAD tax*. The reason for this non-neutrality is that NBFIs cannot currently provide cheque accounts to their customers on their own behalf. NBFIs providing cheque facilities do so by entering into an arrangement with a bank capable of issuing cheques. The NBFI has its own cheque account with that bank and allows members to draw cheques on that account, rather than

the account of the person writing the cheque. Thus, the cheque is technically not drawn on the NBFIs, but rather on the bank issuing the cheque facilities. The credit union then reimburses this account from the account of the person who wrote the cheque. Thus, technically, no account with an NBFIs has a cheque facility attached to it. Hence, withdrawals from these accounts (cheque or otherwise) do not directly incur *BAD tax*. Of course, the credit union is charged for the *BAD tax* incurred by the bank whenever a cheque withdrawal is made. The credit union can, in turn, seek reimbursement for the *BAD tax* from the individual member making the cheque withdrawal. This occurs regularly in practice. Thus, cheque-based withdrawals from NBFIs effectively incur *BAD tax*. Non-cheque-based withdrawals do not, however, incur the tax. This creates a disparity between banks and NBFIs that provide similar services, as all withdrawals (cash, cheque and other) from a bank account with a cheque drawing facility are liable for *BAD tax*, while only cheque withdrawals from some NBFIs are liable. This non-neutrality of *BAD tax* has implications for the economic incidence of the tax, which will be discussed below.

Following the reintroduction of *BAD tax* in the ACT on 1 July 1997, all jurisdictions now levy *BAD tax*. While the base has remained fairly uniform since *BAD tax* was handed from the Commonwealth to the States in 1991 (see below), the rates at which *BAD tax* is levied have not. The various rate scales are outlined in Table 8.4.

There are a number of exemptions associated with *BAD tax*. It is instructive to examine the ACT's provisions, which are typical of those in other States. The ACT exempts charitable organisations, schools, colleges, universities and hospitals. Diplomatic and Consular personnel are also exempted. Government organisations, along with Commonwealth and ACT government departments, are exempted if their principal function is not in the nature of a business. Financial institutions which carry on banking business within the ACT and hold cheque accounts at another financial institution may be eligible for an exemption if such an exemption would remove the occurrence of double taxation. For example, clearing accounts may qualify.

Table 8.4: BAD tax rates, as at 1 January 1998

<i>Size of debit</i>	<i>Tas.</i>	<i>NT</i>	<i>All other States</i>
Less than \$1	nil	nil	nil
\$1 to \$99	\$0.15	\$0.15	\$0.30
\$100 to \$499	\$0.35	\$0.70	\$0.70
\$500 to \$4 999	\$0.75	\$1.50	\$1.50
\$5 000 to \$9 999	\$1.50	\$3.00	\$3.00
Over \$10 000	\$2.00	\$4.00	\$4.00

Source: NSW Treasury (1998, p. 12).

While pensioners are not exempted from *BAD tax* in the ACT, there is a pensioner rebate scheme in place. This applies to only one account per person, so that pensioners who pay *BAD tax* through two or more accounts can only claim the rebate for the tax paid through one of those accounts. In addition, the rebate is for amounts between \$15 and \$50 annually, so that pensioners who pay less than \$15 a year in *BAD tax* cannot claim the rebate, while pensioners who pay more than \$50 a year in *BAD tax* will only get a partial rebate of \$50. For amounts between \$15 and \$50, there is effectively a 100 per cent rebate for pensioners. The rebate is paid only upon application to the Commissioner of ACT Revenue. Applications for pensioner rebates must be made on a prescribed form within a 12 month period following the conclusion of the financial year for which the rebate is being claimed. Individuals covered by the pensioner rebate scheme in the ACT include Social Security and Veterans Affairs pensioners such as the aged, disabled, sole parents, carers and widows, along with long-term unemployed.

History of BAD tax

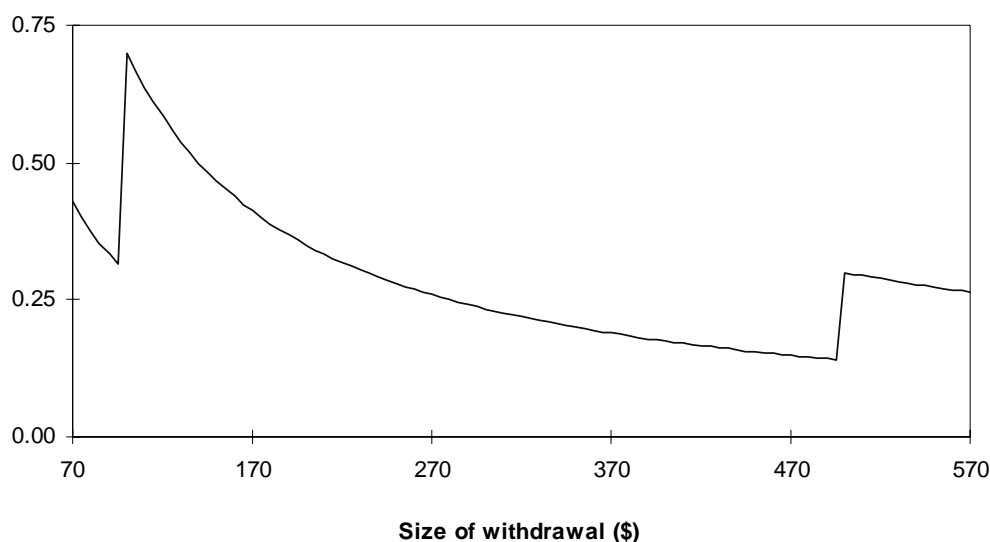
BAD tax was first introduced by the Commonwealth government in April 1983 with the aim of broadening the indirect tax base (Hawtrey 1993, Commonwealth of Australia 1982). It was levied in a sliding scale fashion on withdrawals from accounts with the potential for cheque-drawing facilities to be attached. In January 1991, the Commonwealth transferred sovereignty over *BAD tax* to the States. However, the Commonwealth recouped its forgone revenue by reducing financial assistance grants to the States (Commonwealth of Australia 1990). The revenue from *BAD tax* became State revenue from this point on. The administration of *BAD tax* could still be carried out by the ATO, if the States so desired, on the condition that a uniform base was employed. This remained the case until 1994, when *BAD tax* administration was transferred to the States. Nevertheless, the common origin of *BAD tax* for

each State has not yet been eroded, so that there is more harmony between State *BAD tax* bases than exists for other State financial taxes.

Efficiency and equity of BAD tax

BAD tax is levied on a relatively narrow base, namely accounts with cheque drawing facilities. This distorts the choice among financial services by raising the costs of using accounts with cheque facilities relative to substitute accounts. For example, it provides an incentive to open a savings account with a credit union, rather than a bank. It may also deter people from using accounts with cheque drawing facilities, reducing the use of cheques in cases when this may be the most efficient form of payment (Swan 1996). Furthermore, *BAD tax* is subject to ‘cascade’ problems and the associated distortions in a similar fashion to *FID*, although admittedly on a narrower set of transactions.

Figure 8.5: Effective *BAD tax* rates, New South Wales, 1 January 1998 (per cent)



Source: NSW Treasury (1998, p. 12).

Figure 8.5 shows average *BAD tax* rates for New South Wales as a function of the size of the withdrawal. In general, the larger the withdrawal, the smaller the average rate of taxation. As withdrawals get very large, the average tax rate approaches zero. The maximum average *BAD tax* rate is 30 percent, applying to withdrawals of one dollar. To the extent that people on low incomes are more likely to make small withdrawals than people on large incomes, *BAD tax* is highly regressive. This reinforces the claim made by the National Australia Bank to the PSA inquiry into bank fees and charges.

The frequency of withdrawals is also important. Those making a relatively large number of smaller withdrawals will pay more tax than those taking out a similar amount of money in a single withdrawal. For example, a single withdrawal of \$10 000 attracts \$4.00 of *BAD tax* in New South Wales, whereas ten \$1 000 withdrawals attract a total of \$15.00 *BAD tax*. Thus, *BAD tax* distorts the size and timing of withdrawals and, hence, the money holding choices of individuals. As well as involving an efficiency loss, it has adverse implications for horizontal equity.

Administration and compliance costs of BAD tax

BAD tax is much less complex than *FID* and, as such, compliance costs are likely to be lower. This is in part because *BAD tax* is levied on a much more specific set of transactions and, therefore, requires less interpretation of complex legislation. Furthermore, because it focuses only on accounts that have cheque facilities, disputes between financial institutions and State revenue offices that occur over whether transactions into and out of internal working accounts are dutiable do not arise with *BAD tax*. Thus, the compliance costs are likely to be lower for *BAD tax* than for *FID* because of a factor that otherwise makes *BAD tax* more distortionary than *FID*, namely, the narrower base upon which it is levied. This is supported by evidence from the Victorian State Revenue Office, which did not report any investigations relating to *BAD tax* underpayment in 1995–96, whereas there were 153 completed investigations of *FID* underpayment, resulting in an additional \$13 million of revenue for Victoria in 1995–96. It is also reflected in the concerns of the States that are reviewing financial transactions taxes, with the main focus being on *FID*, including amendments to the definitions of the terms ‘accounts’ and ‘receipts’ (Victorian State Revenue Office 1996).

8.4 Marketable securities duty

How does marketable securities duty work?

Marketable securities duty, which is also known as *share transfer duty*, is an ad valorem transactions tax levied on most transfers of marketable securities of corporations and trusts (whether listed or unlisted, public or private). A number of different financial instrument types are covered by *marketable securities duty*. According to the Australian Tax Handbook, the marketable securities covered by *marketable securities duty* include shares, corporate debt securities, units of unit trusts, government securities and options to acquire marketable securities (Deutsch et al 1996). According to Swan (1996), however, a number of exceptions to *marketable securities duty*, provided for in the *Stamp Duties*

Act 1920 (NSW), effectively limit the revenue base for *marketable securities duty* in New South Wales to trade in equities and shares. Provisions in schedule 2 of the *Stamp Duties Act 1920* (NSW), which contains the exemptions to the various stamp duties, do appear to limit the coverage of *marketable securities duty* to some extent. Most of these provisions relate to off-market transactions, such as those by charities, trusts, bequests and where there has been no change of beneficial ownership. However, some on-market broker trades are also exempted, such as those involving government securities, corporate debt securities and securities lending.

When assessing the legal incidence of *marketable securities duty*, it is necessary to distinguish between on-market and off-market transactions. The duty regimes differ in terms of the jurisdiction where *marketable securities duty* is payable, the tax rates that apply and the party that is legally liable to pay the tax. On-market broker trades are taxed in the State in which the trade takes place. For off-market securities clearing house (SCH) regulated transfers, the tax is levied in the State where the company whose securities are being traded is incorporated. In general, both parties to an on-market transaction are liable to pay the tax, while the purchaser is liable for off-market transactions (NSW Treasury 1996, pp. 12–13). However, for listed transactions over \$100, the applicable rate for off-market transactions is generally twice the rate that applies to one side of on-market transactions, making the total *marketable securities duty* liability comparable. In cases where agents are employed by the parties to the sale, the agent for an otherwise tax-liable party is liable to pay the tax, but they can generally recover the tax from the party they represent.

The payment arrangements also vary. In New South Wales, for example, with off-market SCH regulated transfers, the relevant SCH participant must lodge a return for any such transfers in the preceding month and pay any *marketable securities duty* that is owing on those transfers not more than seven days after the end of that month. For on-market broker transactions in New South Wales, the approved dealer must lodge returns and pay the appropriate amount of *marketable securities duty* no later than Thursday of each week for the preceding week, that is, the week ending on the previous Saturday. All other jurisdictions have monthly returns for off-market SCH regulated transfers (in the ACT, these are the off-market transactions conducted through the ASX's 'Clearing House Electronic Share Register'). NSW Treasury (1996) report that, for on-market broker transactions, New South Wales, Victoria, Queensland and South Australia require weekly payments, based on the previous week's transactions. In Western Australia, Tasmania, the ACT and the Northern Territory, payments are monthly, based on the previous month's transactions. Table 8.6 at the end of this chapter lists the currently applicable rates of *marketable securities duty* by State and transaction type.

There are some exceptions to the standard rates, in the form of concessional rates and exemptions. A principal trades concession is offered by the States to brokers and traders when they carry out certain trades on their own behalf. Transfers of bonds, debentures, stock or treasury bills issued by any Commonwealth or State government or administration or by public statutory bodies constituted under any Commonwealth or State law are exempt from *marketable securities duty* in all jurisdictions. Similarly, any transfer of interest in, or charges over, the above government securities is exempt from *marketable securities duty*. Transfers of bonds, debentures and other corporate debt securities issued by bodies corporate are also exempt from *marketable securities duty*. Transfers of shares in companies whose sole business is mining or prospecting in New South Wales, and where the monetary consideration associated with the sale is at least as great as the unencumbered value of such property sold, are exempt. Transfers of shares that are listed on a stock exchange in Australia, where the sole purpose of the transfer is associated with securities lending, are exempt. Transfers of shares associated with trustee relationships are often exempt from *marketable securities duty*. Transfers of marketable securities to or by certain specified nominee companies are also exempt from *marketable securities duty*. In New South Wales, trading in futures, options and other derivatives is not dutiable (Swan 1996).

Share transfer taxes are employed by a number of countries around the world (Pender 1997, p. 71). Indeed, about half of the member countries of the OECD levy such taxes. Prior to the reduction in *marketable securities duty* rates applying to shares in listed companies from 0.6 per cent to 0.3 per cent by all Australian States in 1995, Australia had the third highest rate of tax on share transfers in the OECD, with only Iceland and Belgium having higher rates. The 1995 reduction in *marketable securities duty* lowered Australia's share transfer tax rate to the fifth highest in the OECD.

Effective marketable securities duty rates

The Grants Commission reports effective tax rates on a State basis for *marketable securities duty*. However, because the rates of *marketable securities duty* levied by each State are almost identical, as discussed above, the Grants Commission did not estimate the revenue base for *marketable securities duty* directly, but, rather, assumed that it was proportional to the actual revenue raised from *marketable securities duty* by each State, with some modifications to account for policy differences. In its 1997 update, the only modification to a *marketable securities duty* base reported by the Grants Commission was to account for the fact that the ACT did not levy *loan security duty*:

This policy had the effect of increasing the share register in the ACT and, hence, its actual revenues. Twenty per cent of the revenues collected by the ACT from stamp duties on shares was attributed to this policy, so the adjustment sets the ACT's revenue base equal to 80 per cent of its actual revenues'. (Grants Commission 1997b, p.83)

The importance of linkages between different taxes within a particular State for assessing the impact of the mix of financial taxes will be examined further below.

The effective tax rates, based on 1995–96 revenue data, for financial transactions taxes and *marketable securities duty*, as reported by the Grants Commission, were set out earlier in Table 8.3. All jurisdictions, except for the ACT, had an effective tax rate on *marketable securities duty* of 0.1 per cent. This is not surprising, given the way the effective rates were calculated. The effective tax rate on *marketable securities duty* was higher in the ACT, reflecting the adjustment made by the Grants Commission to account for the absence of *loan security duty* in the ACT.

Using trading data from the ASX (1997a), it is possible to obtain an indication of movements in the base for *marketable securities duty* (Figure 8.6). This can then be used to calculate an alternative estimate of the average effective rate of *marketable securities duty* for Australia in 1995–96 — approximately 0.25 per cent, or 25 cents for every \$100 traded. This estimate is upwardly biased, as it understates the base by including only on-market transactions. Note that, since *marketable securities duty* is payable by both parties to an on-market transaction, care must be taken when comparing this average effective rate to the statutory rate. The appropriate statutory rate for comparison is twice the listed rate for on-market transactions — 30 cents per \$100 in most States.

Figure 8.6: Value of shares traded on the ASX, 1986–87 to 1995–96 (percentage of GDP)



Sources: ASX (1997a) and dX database.

Efficiency and equity of marketable securities duty

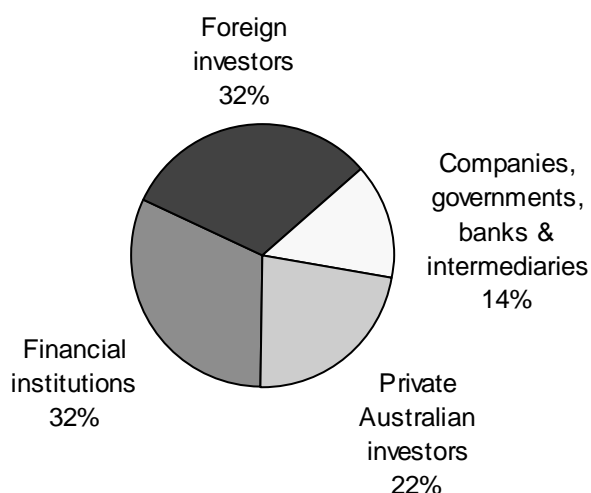
Marketable securities duty is basically a tax on the transfer of shares. As such, it raises the transactions costs associated with the trading of shares and, hence, may reduce the volume of trade. This results in some transactions not taking place, even though the potential buyer is willing to pay at least the seller's tax-free opportunity cost. While the size of the resulting efficiency loss is difficult to evaluate, Aitken and Swan, using data generated by the cut in *marketable securities duty* in 1995, estimate that the 'net social welfare gains [of this cut in *marketable securities duty*] ... after taking account of tax revenue losses may be of the order of \$4.6 billion on a present value basis' (Aitken and Swan 1997a, p. 1). The study identifies an important source of gain from cutting *marketable securities duty* rates, even if the magnitude seems excessive.

The history of the cut in *marketable securities duty* applying to shares in listed companies that occurred in 1995 is itself informative about each State's beliefs regarding the elasticity of demand for share trading services in a particular State, and, hence, the perceived mobility of the tax base for *marketable securities duty*. On 23 May 1995, the Queensland Government announced that it was going to cut *marketable securities duty* rates in half, from 0.3 percent to 0.15 percent of the one-sided value of the tax, or from 0.6 percent to 0.3 percent in total. The other States soon followed suit, suggesting that each State believed

that, since all it takes to buy and sell shares in another location is a phone call to a broker in that location, the tax base for *marketable securities duty* is extremely mobile (Swan 1996, Aitken and Swan 1997a, 1997b). If these beliefs are correct, tax competition between the States may well be inefficient, as resources are wasted trying to lure funds to particular States.⁵ This leaves open the possibility of cooperation between the States to reduce such rent seeking activity.

The tax base for *marketable securities duty*, namely, the turnover of shares, appears to be particularly mobile. In addition to the anecdotal evidence provided by the response of the other States to Queensland's decision to cut its *marketable securities duty* rate, this proposition is supported by the breakdown of ASX listed share ownership in Australia (Figure 8.7).

Figure 8.7: Share ownership, by type of investor, Australia, March quarter 1995



Source: ASX (1997c).

Only 22 per cent of ASX listed shares are directly owned by private Australian investors. Foreign investors own 32 per cent, financial institutions own 32 per cent, and a combination of companies, governments, banks and intermediaries own the remaining 14 per cent. Even if the location decisions for share trading by private Australian citizens are not particularly mobile, the location of share trading by foreign and institutional investors is likely to be very mobile, both inside Australia and internationally. The ASX emphasised its belief in the

⁵ These arguments are stronger the less internationally mobile these transactions are (see Appendix A).

international mobility of share trading in its annual report, claiming that there is a:

... need to abolish stamp duty on share transactions, or at least further reduce its rate which remains one of the highest in the world, and to broaden the range of organisations eligible for Offshore Banking Unit tax concessions to attract the operations of large overseas fund managers. (ASX 1997b, p.31)

Since the bulk of Australian shares traded on the ASX are owned by foreign and institutional investors, and, hence, are likely to be very mobile, there appears to be a strong case for cutting *marketable securities duty* altogether.

Against this, a market failure justification for *marketable securities duty* has been offered by a number of authors, including Stiglitz (1989), Rubinstein (1992), Summers and Summers (1989) and Subrahmanyam (1998). A security transaction tax, such as *marketable securities duty*, is said to reduce speculative investment and thereby discourage the use of scarce private resources in the acquisition of information which is of no social value.⁶ In effect, it is being claimed that such a tax is Pigouvian in nature, subject to it being set at the right level, as it is correcting for an externality problem by discouraging rent-seeking behaviour. However, while recognising that the views expressed by Stiglitz (1989) and Summers and Summers (1989) are very difficult to test, Aitken and Swan (1997a) report that their findings do not tend to support the market failure justification for a securities transaction tax. Instead, their findings support the view that such a tax reduces efficiency by raising the costs of trading, reducing liquidity and impeding the smooth functioning of securities markets.

Marketable securities duty appears to be a reasonably equitable tax. The rate structure varies from being neutral to being marginally progressive, in terms of the percentage of the value of the transfer that is taken in tax. Furthermore, the average shareholder is generally more affluent than the average non-shareholder, although the increasing influence of superannuation funds needs to be taken into account. If superannuation funds are included, most working Australians have an investment in the share market (ASX 1997b). The ASX (1997d) reports that share ownership appears to increase with income. The average income level for both shareholders and non-shareholders in their sample was \$43 500, while the average income of the shareholders' sub-sample was \$55 000.

⁶ The information is said to be of little value because it would become available anyway. The speculating parties are investing resources to obtain the information earlier than other parties, thereby affecting the distribution of wealth, but not the aggregate level of wealth.

Administrative and compliance costs of marketable securities duty

Compliance costs are unlikely to be particularly high for *marketable securities duty*. It is a much less complex tax than *FID*, in the sense that there is greater harmony between States and less ambiguity in the coverage of transactions. While the Victorian State Revenue Office (1996) does not report a separate figure for revenue obtained from investigations of underpayment of *marketable securities duty*, its total additional revenue from investigations relating to *stamp duties*, less the revenue attributable to stamp duties on rental, registered used car dealers and land transfers, amounted to \$2 million in 1995–96 for Victoria, or about 0.001 per cent of total revenue from stamp duties in Victoria for 1995–96. This places an upper bound on the significance of underpayment of *marketable securities duty*. The actual figure is likely to be much lower. The NSW Tax Task Force (1988) reached the same conclusion on the compliance costs of *marketable securities duty* as they did for all other stamp duties except for *cheque duty*, namely, that they appear to be low.

8.5 Loan security duty

How does loan security duty work?

Loan security duty is levied on the portion of a loan that is secured by some form of property. It applies to most mortgages and some debentures. In general, duty is payable in the State in which the loan is executed or the property used as security is located (*Stamp Duties Act (NSW) 1920*, s. 83). It is levied in all jurisdictions, except for the Northern Territory and the ACT (NSW Treasury 1998, Swan 1996). Details such as tax brackets, tax rates, exemptions and payment arrangements differ significantly between States (Table 8.7 at the end of this chapter). For example, Queensland and Western Australia use an ad valorem rate for each of their tax brackets, whereas the other States have a fixed charge applying to the first major bracket and an ad valorem charge on amounts in excess of that bracket. To the extent that a significant portion of the property securing dutiable loans consists of land, the relative immobility of the base would explain the ability to sustain the substantial interstate differences in rates and arrangements that are evident in Table 8.7 below.

Efficiency and equity of loan security duty

The inefficiencies associated with *loan security duty* arise from two sources. First, *loan security duty* is non-neutral to various substitute financing options, such as unsecured loans or equity, to the extent that these other financing options are not themselves subject to their own taxes at comparable rates.

Given that equity financing will be subject to *marketable securities duty*, as discussed earlier, the main non-neutrality will be between secured loans and unsecured loans, although differences in the effective tax rates of *marketable securities duty* and *loan security duty* may also involve some distortions. As the NSW Tax Task Force noted, because:

... the duty attempts to attach to various specified instruments rather than to the particular transaction ... [it leaves] the way open for minimisation and avoidance (which, through judicious drafting of instruments and structuring of loans, is relatively simple to achieve). (NSW Tax Task Force 1988, p. 259)

This makes the tax a particularly inefficient way of raising revenue.

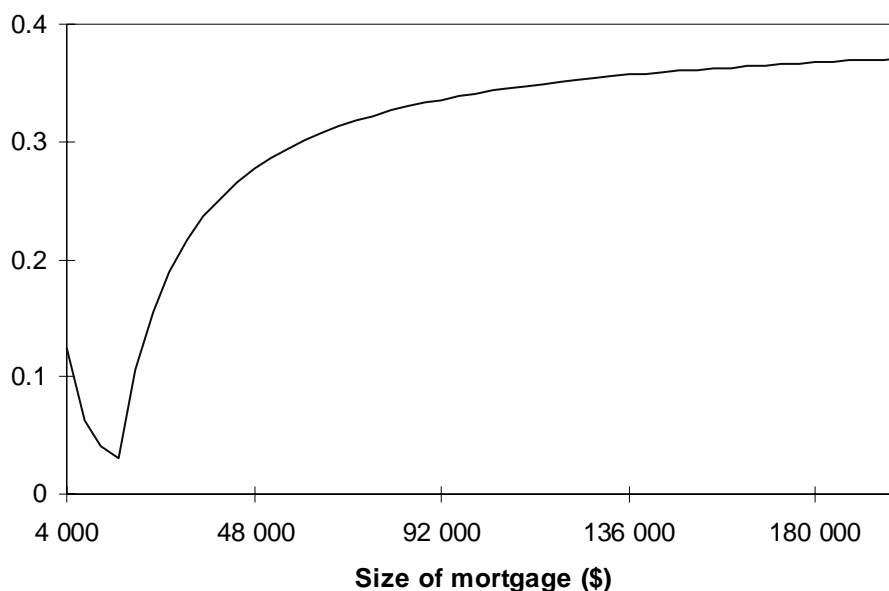
Swan notes that these non-neutralities have ‘the effect of putting those financial institutions which tend to borrow on a secured basis such as finance companies and credit unions at a competitive disadvantage’ (Swan 1996, p. 27). A potentially significant consequence of this discouragement of secured borrowing is a constraint on growth in the capital market. The reason for this is that secured loans are relatively marketable and transferable, so the discouragement of such loans impedes growth in the secondary loans market (Hawtrey 1993, Swan 1996).

Second, the arrangements for *loan security duty* themselves may have perverse incentive effects. The rate structure for *loan security duty* in all States, except for Queensland and Western Australia, involves a flat charge on the secured portion of any loan for an amount less than some threshold and then a percentage tax on the excess of the sum secured over that threshold. The effective tax rates for a single secure loan for New South Wales are shown in Figure 8.8. Other costs aside, since the effective tax rate is minimised for loans of slightly less than \$18 000 in New South Wales, there would be an incentive to break up much larger secured loans into a number of smaller, \$18 000 secured loans in that State. However, the presence of significant transaction costs (legal fees, banks’ administrative charges and registration fees) means that mortgages will be seldom split in practice.

In some States, *loan security duty* also provides an incentive to avoid refinancing a loan by taking out a given loan over a longer period. *Loan security duty* is levied up front on the initial size of a mortgage, irrespective of the term to maturity. Borrowers who subsequently decide to extend the term of a loan will incur *loan security duty* twice (Hawtrey 1993, Swan 1996). This incentive may result in borrowers choosing longer repayment plans in order to keep open the option of repaying a loan over an extended period without incurring an additional *loan security duty* burden. This situation does not generally apply in New South Wales, where the refinancing of loan securities is

exempt, and applies only to a limited extent in Victoria and Queensland (Table 8.7).⁷

Figure 8.8: Effective loan security duty rate, New South Wales, 1 January 1998 (per cent)



Source: NSW Treasury (1998, p. 14).

Loan security duty is also considered to be somewhat inequitable. People on lower incomes may be less able to substitute an unsecured loan for a secured loan than people on high incomes, although some on lower incomes may be less likely to have security available at all. Nevertheless, the NSW Tax Task Force (1988, p. 259) noted that the majority of revenue raised by *loan security duty* comes from the household sector and small borrowers.

There also appears to be some double taxation associated with *marketable securities duty* and *loan security duty*. The Grants Commission, when estimating the average effective tax rate for *marketable securities duty* in each State, found that the ACT earned an abnormally high amount of revenue from *marketable securities duty* due to a higher than expected share turnover which results from the absence of *loan security duty* in the ACT. The interaction of these taxes is an important factor in assessing the efficiency of the State financial tax mix. In addition to double taxation issues, the fact that debt and

⁷ However, *loan security duty* is payable New South Wales where a new set of documents is issued.

equity are substitute means of financing projects for firms suggests that the taxation arrangements for each of these instruments should be consistent.

Administrative and compliance costs of loan security duty

There are good reasons for suspecting that the administrative costs associated with *loan security duty* are significant. The legislation surrounding *loan security duty* is complex, as the continuous development of new financial instruments that approximate 'loan securities' has necessitated amendments to the relevant 'stamp duties' Acts to close various loopholes. This also requires the parties responsible for paying the tax to remain abreast of recent developments.

The significant differences in *loan security duty* regimes between States imposes significant compliance costs when a particular loan security is potentially dutiable in multiple jurisdictions. According to Swan:

... the non-uniformity of the tax scale, and the lack of comprehensive inter-jurisdictional arrangements creates difficulties ... [documents] often have to be stamped in multiple jurisdictions which is costly in terms of time and money'.
(Swan 1996, p. 28)

Otherwise, the NSW Tax Task Force (1988) reported that compliance costs were relatively low, with the records necessary for tax purposes capable of being easily generated. This is supported by the Victorian State Revenue Office (1996), which noted that total additional revenue from investigations relating to *stamp duty*, less the revenue attributable to stamp duties on rental, registered used car dealers and land transfers, was about 0.001 per cent of total revenue from *stamp duties* in Victoria for 1995–96 (Victorian State Revenue Office 1996, pp. 9 and 60). The component of this relating to *loan security duty* may well be even smaller.

8.6 Where to from here?

Reform of the structure and mix of taxes on the financial system

Two features of financial transactions taxes make them a particularly inefficient form of taxation. The first is the mobility of the tax base. Financial services are fairly mobile between States, so they are not well suited as a base for taxation at the State level. But the base is also mobile internationally, so it is not clear that financial taxes should ever be a major revenue raising instrument. Their second undesirable feature is the difficulty of incorporating financial services into a broad-based consumption tax, thereby ensuring that financial services used as business inputs are not taxed. Albon (1996, p. 11) notes that

‘the ‘commodity’ financial services, would ideally be include in a broad-based consumption tax base’, but until charging on a fee for service basis is much more widespread than currently, such services will remain extremely difficult to tax directly.

A further undesirable feature of the current system of financial transactions taxes is its non-neutrality with respect to competing financial services. While the appearance of non-neutrality can be overstated by looking only at individual taxes, differences in tax rates applying to various financial instruments and holes created by exemptions, concessions and rebates ensure that such non-neutralities are significant. By levying a number of taxes on relatively small bases, the States are distorting individual portfolio choices in favour of financial instruments with relatively lower tax rates, and ensuring a disproportionately high efficiency loss from the highly taxed, narrowly defined services. These factors underlay the Campbell Committee’s call for a broad-based, uniform tax on similar financial instruments Australia-wide.

The interaction of State financial taxes with Commonwealth financial taxes raises some additional issues. First, the non-neutrality of the tax system with respect to different financial instruments is not unique to the States. The Commonwealth’s treatment of the returns from saving and investment for *income tax* purposes imposes substantially different effective tax rates upon various financial instruments (Freebairn 1997a, Pender and Ross 1994). The interaction of the Commonwealth and the State tax systems does not appear to negate the non-neutralities. While transactions at banks, transactions at NBFIs and transfers of marketable securities all receive different treatment by the State tax system, deposits at banks, building societies, cash management trusts and common fund deposits have been treated neutrally by the Commonwealth’s comprehensive income tax system. Deposits at credit unions, however, are advantaged by the Commonwealth tax system since, while depositors are taxed on their interest at their marginal personal income tax rate, the credit unions themselves are exempted from paying taxes on their earnings. Another disparity is caused by the effective income tax rate on equity being much lower than that on income earned from deposits at financial institutions (Pender and Ross 1994). If anything, the Commonwealth and State financial tax systems appear to operate in the same direction, exacerbating the distortions caused by non-neutralities in the treatment of different financial instruments.

Thus, it is not clear that such State taxes should be levied on the financial sector.

However, if it is felt that some revenue must be raised in this way, then reforms on several levels are possible. The most conservative option would involve separate reforms to the four main financial taxes. Alternatively, the current set

of taxes could be replaced by one of several broad-based alternatives. The first is a single uniform, broadly-based financial transactions tax, levied on either deposits or withdrawals. Another involves a combination of taxes on the fees and charges of financial institutions and on interest payments out of, and receipts into, financial accounts, as an approximation for a consumption tax on financial services. Each of these options is considered in turn.

Reform of existing taxes

FID has the advantage of being the broadest-based financial tax currently employed by a State government. While not completely neutral with respect to substitute financial instruments, it is less distorting than the other financial taxes, but only if the transactions base is a reasonably good proxy for the services being delivered. If the States are to continue taxing financial arrangements, it would be possible to modify *FID* to improve efficiency. A number of possible modifications have been suggested. The Wallis Committee recommended:

... addressing the biases against electronic funds transfer and inconsistencies in *FID* legislation and administration between jurisdictions, exempting transfers between accounts held by the same person and inter-company transfers, as well as exempting foreign currency accounts. (Wallis et al 1996, p.319)

However, some of the exemptions from *FID* suggested by the Wallis Committee may involve higher administration and compliance costs.

BAD tax in its current form is difficult to defend. It is both inefficient, in that it distorts both the choice of account and financial institution and the money balance decision, and it is inequitable, in that less wealthy individuals tend to pay a higher average tax rate. These problems arise because of the narrowness of the *BAD tax* base and the structure of the *BAD tax* rate schedule. If *BAD tax* is to continue, these two problems need to be addressed. Furthermore, *BAD tax* operates on a subset of the accounts affected by *FID*, so there is a degree of double taxation. If the two taxes were consolidated into a single tax at a higher rate, so that there was no loss in revenue, then it may be possible to achieve some administrative and compliance cost savings by exploiting economies of scale, without a corresponding increase in the distortionary incentives provided by the taxes.

Marketable securities duty and *loan security duty* are relatively narrowly-based taxes and, as such, market failure considerations aside, should be replaced by a broader-based tax on financial services. However, because shares and secured loans are not picked up by the broader financial taxes such as *FID*, the existence of *marketable securities duty* and *loan security duty* at appropriately chosen rates could be thought of as an exercise in base broadening itself. Certainly,

unless shares and secured loans are picked up by a broad financial services tax, the removal of *marketable securities duty* and *loan security duty* may provide a distortionary incentive to transfer funds out of other taxable assets. However, gaps in coverage, such as unsecured loans, need to be addressed, while tax rates need to be set appropriately if distortionary incentives are to be minimised. Finally, if the existence of a market failure associated with share trading can be substantiated, then a small turnover tax may be warranted, but a convincing case has yet to be made.

As noted above, some of the States have already started the process of reforming *FID* and the other financial taxes. A number of the reforms proposed by Wallis may be addressed in this process. In particular, issues relating to the development of electronic payments systems and interjurisdictional issues relating to definitions and liabilities are being examined (Victorian State Revenue Office 1996).

A broad-based financial transactions tax

Given that one of the major problems with the current mix of State financial taxes is the number of taxes levied on relatively small bases and the non-neutralities among competing financial instruments that this tax mix generates, a single broad-based transactions tax would be a better alternative. One such tax would be a suitably modified version of *FID* or *BAD tax*. The modifications needed would depend on which option was chosen. The advantages that *FID* currently has over *BAD tax*, as discussed above, are a significantly broader base and a single ad valorem rate. The key difference between the proposed financial transactions tax and the current *FID* and *BAD tax* regimes include extending the base to cover all transactions currently covered by *FID*, the inclusion of secured and unsecured loans, and, if desired, transfers of marketable securities. While overcoming the non-neutrality problems inherent in the current State tax mix, a single broad-based transactions tax would still possess the other disadvantages of a transactions tax. In particular, it would still tax financial services used as business inputs, and would tend to discourage people from changing their portfolio of assets at the margin, thereby locking them in to a profile of assets that did not reflect their current preferences.

The States appear to be moving in the direction of abolishing *FID* in favour of a modified *BAD tax* which, if agreement between the States can be reached, would apply nationally. This rationalisation of *FID* and *BAD tax* is with a view to eliminating as much of the double taxation of banking transactions that occurs at present as is possible. The proposed reforms to *BAD tax* involve broadening the base, moving to an ad valorem rate and harmonising the base between States. The State of Victoria claimed that

... the replacement of the current debits tax on cheque-linked facilities with a tax on all withdrawals will significantly reduce distortions associated with the narrow base of the current debits tax. Greater equity will also result from the proposed shift to an *ad valorem* rate from the current stepped rate structure. As a result, financial taxes will better reflect a capacity to pay, with major benefits to small business and households which will generally pay less tax than now. Finally, harmonisation of the tax base under the proposed national scheme will significantly reduce compliance costs for financial institutions and the administrative costs of tax collection agencies. (State of Victoria 1997, pp. 98–99)

To the extent that this proposal mirrors the reformed *FID* option given earlier in all respects except for the transactions that are taxed — *FID* applies to deposits into dutiable accounts, while *BAD tax* applies to withdrawals from dutiable accounts — the effect would be similar.⁸ The decision to broaden the *BAD tax* base rather than reform *FID* appears to have been taken in part because of business preferences that *FID* be scrapped (Victorian State Revenue Office 1996, p. 20). In broadening the base for *BAD tax*, it will be necessary to ensure that the problems that have been identified with *FID* in its current and historic forms are avoided. It is not clear that this task is any easier than reforming *FID*. However, as far as efficiency issues are concerned, both options are preferable to the current arrangements.

A tax on the consumption of financial services

The option of basing a broad-based financial services consumption tax on the fees and charges levied by financial institutions has some attractions. Such a tax could potentially mimic the effects of a tax on the consumption of financial services. Unlike transactions based taxes, such as *FID* and *BAD tax*, a tax on fees and charges would effectively be a direct mark up on the price of financial services. Certainly the fees and charges levied by financial institutions represent a lower bound on the value of financial services to the individuals and firms that use them, in the way that market prices represent a lower bound on the value of goods to the people who purchase them.

The fees and charges levied by financial institutions, while becoming more important, are still not a complete measure of the value of financial services. Financial institutions still raise revenue from other sources, including the gap between borrowing and lending rates of interest. A tax based solely on fees and charges might provide an incentive for financial institutions to halt the move towards this form of charging, despite the pressure from increased competition that has driven them in this direction.

⁸ There may be some differences due to different withdrawal and deposit profiles.

To avoid discouraging the trend towards greater use of user pays in the provision of financial services, it may be necessary to include other sources of financial institution revenue in the tax base. While it is impossible to tax interest rate differentials directly, a very small tax on gross interest payments and receipts may give an approximation. In this context, the interest payments should be seen as a proxy for the intermediation service, rather than as a source of income. The administrative difficulties involved in designing such a system may be significant initially. Nevertheless, the system of taxing explicit user charges could be extended to a wide range of non-bank financial institutions, including stockbrokers.

A further question is whether, once the system was established, it would be feasible to somehow exempt or rebate the taxes paid on financial services used as business inputs. It is highly unlikely that the States would establish their own VAT-like rebate systems, especially with the prospect of a broad-based consumption tax forming a component of Commonwealth tax reform. Nevertheless, in the future there could be the possibility of piggy-backing a State-based financial services tax on Commonwealth consumption tax rebate system.

Conclusion

The key problems with the current mix of financial taxes in the States are associated with the bases upon which they are levied. There are a number of small taxes on narrowly defined, highly mobile bases that raise very little revenue, and do so very inefficiently. Furthermore, exemptions and concessions result in a number of holes in the bases upon which the major financial taxes are levied. It is not at all clear that these exemptions and concessions can be justified on either efficiency or equity grounds. Finally, the mobility of the bases for financial taxes make interstate differences in taxation arrangements particularly inefficient.

The relative mobility of the financial tax base would suggest that, ideally, the States should eliminate their financial taxes altogether. However, recognising that such a position may be unattainable due to the sizeable hole it would leave in State budgets, a useful compromise would be to replace the current mix of State financial taxes with a single, broad-based financial transactions tax. The base of such a tax should be uniformly defined by all States. The States could consider levying such a tax at a uniform rate Australia-wide. A more radical alternative would be to change the transactions base to one that more closely approximated the consumption of financial services, allowing the prospect that financial services used as business inputs could then be made exempt.

Table 8.5: Revenue from State taxes on financial transactions, 1995–96 (\$ million)^a

<i>Tax on financial transactions</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>	<i>Australia</i>
Financial institutions duty (FID)	497	313	–	112	76	22	26	11	1 058
Bank account debits tax (BAD tax) ^b	319	257	131	54	59	15	–	7	843
Marketable securities duty	188	139	18	22	8	1	12	1	390
Loan security duty	122	74	94	51	24	7	–	–	373
Stamp duty on credit business	53	33	16	17	10	5	0	2	136
Cheque duty	–	–	–	10	6	–	–	–	17
Total taxes on financial transactions^c	1 180	817	259	266	184	51	38	21	2 815
Total tax revenue (Grants Commission)	10 295	7 432	3 900	2 542	1 917	576	425	273	27 360
Share of total	11%	11%	7%	10%	10%	9%	9%	8%	10%
Total tax revenue (ABS) ^d	12 689	9 630	4 939	3 079	2 470	760	519	302	34 389
Share of total	9%	8%	5%	9%	7%	7%	7%	7%	8%

a Based on Grants Commission data for the *budget sector* (as opposed to the *general government* sector used by the ABS).

b In the absence of information on the total number of dutiable transactions for Tasmania in 1995–96, the total revenue from debits duty in Tasmania could not be decomposed into an implicit BAD tax component and a corrected debits duty component.

c Excluding State taxes on financial transactions included within the Grants Commission's *other revenue nec* category.

d Defined as State, Territory and local government *Total taxes, fees and fines* less *Fees and fines*.

Sources: ABS 5506.0 and Grants Commission (1997a; personal communication).

Table 8.6: Summary of marketable securities duty rates, by State, as at 1 January 1998

<i>State</i>	<i>On-market^a</i>	<i>Off-market listed^b</i>	<i>Off-market unlisted^b</i>	<i>Principal trades concession^c</i>
New South Wales	15c/\$100	30c/\$100	60c/\$100	0.25c/\$100 where turnover occurs within 3 months
Victoria	up to \$100: 3.5c/\$25 over \$100: 15c/\$100	up to \$100: 7c/\$25 Over \$100: 30c/\$100	up to \$100: 14c/\$25 Over \$100: 60c/\$100	0.25c/\$100 where turnover occurs within 3 months
Queensland	brokers: 15c/\$100 other: 30c/\$100	brokers: 15c/\$100 other: 30c/\$100	brokers: 30c/\$100 other: 60c/\$100	No duty applies where turnover occurs within ten days
Western Australia	15c/\$100	30c/\$100	60c/\$100	No duty applies where turnover occurs within ten days
South Australia	15c/\$100	30c/\$100	60c/\$100	No duty applies where turnover occurs within ten days
Tasmania	15c/\$100	30c/\$100	60c/\$100	No duty applies where turnover occurs within ten days
Australian Capital Territory	up to \$100: 4c/\$25 Over \$100: 15c/\$100	30c/\$100	60c/\$100 (minimum \$20)	No duty applies where turnover occurs within ten days
Northern Territory	15c/\$100	30c/\$100	60c/\$100	No duty applies where turnover occurs within ten days

a On-market rates apply to both sides of the transaction (ie. to both the buyer and the seller).

b Off-market rates apply to the purchaser only, except for brokers in Queensland where the rate applies to both sides of the transaction (ie. to both the buyer and the seller).

c Turnover relates to where marketable securities are bought and then sold.

Source: NSW Treasury (1996).

Table 8.7: Summary of loan security duty arrangements, by State, as at 1 January 1998

<i>State</i>	<i>Rate schedule^a</i>	<i>Refinancing exemption</i>	<i>Transfer duty</i>	<i>Reference period</i>
New South Wales	\$0–\$500: nil \$500–\$16 000: \$5 thereafter: \$5 plus \$0.40/\$100 there is an exemption for advances up to \$10 000 in any 12 month period	all loans	no	previous week's transactions
Victoria	\$0–\$200: nil \$201–\$10 000: \$4 thereafter: \$4 plus \$0.80/\$200	all businesses loans	no	payments due within 3 months of loan's execution
Queensland	\$0.40/\$100	mortgages on: principal place of residence up to: \$100 000 others up to: \$70 000	\$5	previous month's transactions
Western Australia	\$100–\$35 000: \$0.25/\$100 thereafter: \$8750 plus \$0.40/\$100 owner occupied residences attracts a concessional rate of \$0.25/\$1900	na	\$10 where the transfer takes place after sale and is for the full value	previous month's transactions
South Australia	\$400–\$4 000: \$10 \$4 001–\$10 000: \$10 plus \$0.25/\$100 thereafter: \$25 plus \$0.35/\$100	na	none for transfers after sale	payments due within 2 months of loan's execution
Tasmania	under \$8000: \$20 \$8 000–\$10 000: \$20 plus \$0.25/\$100 thereafter: \$25 plus \$0.35/\$100	na	\$20	previous month's transactions

a Not levied in the ACT and Northern Territory.

b All rates are expressed as a mill rate (eg. \$0.35/\$100) with the rate applying to each \$100 (or part thereof).

Source: NSW Treasury (1996, p. 14).

9 FRANCHISE FEES

Prior to being declared unconstitutional by the High Court, franchise fees on alcohol, petrol, tobacco and, to a lesser extent, electricity and gas were an important, and growing, source of State revenue. These commodities are popular subjects of taxation because of the relative insensitivity of their demand, and because of adverse external costs associated with their use that are not born directly by the user. On the surface, franchise fees would therefore appear to be a relatively efficient form of State taxation. However, franchise fees are less efficient in practice, in part because of the high levels of Commonwealth taxation on the same commodities. Taking into account the available estimates of the aggregate external costs and the combined effects of State and Commonwealth taxation, State taxes on spirits and tobacco have relatively high efficiency losses, while those on petrol have relatively low efficiency losses. The States could therefore consider reducing their reliance on franchise fees on spirits and tobacco and increase their reliance on taxes on petrol. Despite this, State taxes on these commodities will continue to remain highly inequitable.

State governments license many business activities (electricians, builders, taxis, etc). In most cases, the licensing process is designed to verify bona fides, regulate the activities or ensure public safety. Licensees pay a fee that generally bears some resemblance to the cost incurred by government in regulating their activities.

Initially, these licensing arrangements extended to the retailing and distribution of tobacco, liquor and, except in Queensland, petroleum products. However, the nexus between the licence fee charged and the cost of administering the licensing arrangements for these particular activities gradually disappeared over time. Rather than being a fee to conduct business, these *franchise fees* became a very important source of revenue for State governments. The fees were also extended in some States to other activities, such as electricity and gas distribution, and X-rated videos.¹

Franchise fees were a very important source of revenue for State governments. Despite the fees being recently ruled invalid by the High Court, the

¹ The ACT used to levy a *licence fee* on X-rated videos, until it was overturned by the High Court in the *Capital Duplicators case*. A nominal licence fee still applies.

Commonwealth, at the request of State governments, sought to maintain State revenue by initiating transitional arrangements until a longer-term solution can be found. These transitional arrangements ostensibly replicated the old *franchise fees*, but have the Commonwealth Government levying taxes and collecting revenue behalf of the States. In the short term, these transitional arrangements will exacerbate the pre-existing vertical fiscal imbalance. In the longer term, the inability to levy *franchise fees* will impact on the ability of States to reform their tax bases. Thus, it is important to understand the reliance that State governments placed on *franchise fees* and the implications that the decision of the High Court poses for State tax reform.

The definition of *franchise fees* used in this chapter is wider than that used by ABS. In classifying State taxes, the ABS makes a clear distinction between *taxes on the provision of goods and services* and *taxes on the use of goods and performance of activities* (of which most *franchise fees* are a sub-category). This distinction is often somewhat arbitrary. A tax on the sales of a statutory corporation producing, distributing and retailing electricity is classified as a *tax on the provision of goods and services*, but an almost identical tax on tobacco distributors (wholesalers) is treated as a *tax on the use of goods and performance of activities*. Both South Australia and Tasmania levied taxes on the sales of their electricity corporations (the ETSA Corporation and the Hydro-Electric Commission, respectively) in 1995–96. In this chapter, these statutory levies have been treated as *business franchise fees*, since the amount of tax paid is directly related to the value of electricity sales, in exactly the same way as *tobacco franchise fees* operated.²

In addition, the ABS currently classifies some of the newer or smaller *franchise fees* (electricity sales and X-rated videos), not as *franchise fees*, but as *other taxes on use of goods, etc.* Given that, in 1995–96, revenue from *electricity franchise fees* alone accounted for 78 per cent of *other taxes on use of goods, etc.* for the purposes of this paper, this category has also been included within *franchise fees*, despite the fact that it also includes some non-franchise related revenue (eg. radio licences).³ The Northern Territory's *alcohol levy*, a surcharge on liquor *franchise fees* to deal with the social consequences of excessive alcohol consumption, has also been included. Taxes on the use of other goods or services, such as those on motor vehicles, gambling and insurance, are not included. Cumulatively, these additions increase the revenue

² This is consistent with the way the levy was treated within the Tasmanian Budget Papers (see, for example, Parliament of Tasmania 1997, p. 145).

³ The ABS is unable to decompose *other taxes on the use of goods etc* into franchise fees and other forms of revenue.

from *franchise fees* by 1.3 per cent (\$69 million) above that indicated by the ABS.

This chapter begins by assessing a number of issues common to all *franchise fees* — how they operated, their history, their importance as a source of revenue — and constitutional restrictions on the revenue raising potential of State governments. The last point holds potentially wider significance for State governments, as it raises questions about the legality of other State taxes and reduces the range of possible reform options. The chapter then proceeds to look, in more detail, at the three most important of the *franchise fees* — those levied on petroleum products, tobacco and liquor — as they generated the majority of *franchise fee* revenue (93 per cent).

The current legal status of the State licensing schemes is unclear on two grounds. First, the successful appeal to the High Court only related to *tobacco licence fees* in New South Wales. The logic underlying this decision, however, applies equally to other licensing schemes, as they operated in a more or less similar way. The replacement arrangements put in place by the Commonwealth Government following the decision of the High Court were for the main three *franchise fees* — petroleum, tobacco and liquor. The lesser *franchise fees*, those relating to electricity and gas, have received no discussion, yet possibly could also be invalid. Until the State governments repeal the relevant acts, or until the acts are tested before the courts, the legal status of these lesser *franchise fees* may be unclear.⁴

Secondly, the acts under which the now defunct *licensing schemes* were levied also performed a wide range of other regulatory functions. While the revenue raising components of these acts have been deemed unconstitutional, the remainder of the acts are probably valid (including the sections dealing with the nominal licence fee). Despite aspects of the schemes appearing to be valid, this chapter refers to *franchise fees* in the past tense, on the understanding that, at the time of writing, the revenue raising components of these schemes are unconstitutional. In addition, the terms *franchise fees* and *licensing fees* are used interchangeably.

⁴ To the extent that the lesser *franchise fees* are levied on State government instrumentalities, this could protect them from the High Court ruling. However, privatisation could remove this protection.

9.1 Overview

How did franchise fees operate?

Although each licensing scheme operated differently, the basic principle was broadly similar, both between States and different activities. In order to operate in a particular activity, usually as both a wholesaler and retailer, you needed to be licensed by the State government. Each licence fee consisted of a nominal fixed fee (usually somewhere between \$10 and \$150). In addition, some licensees were required to pay an additional component based on previous activity (summarised in Table 9.1). The States levied the licence fee on past activity (usually, the preceding one, two or twelve months) so that the fee would not be considered an *excise duty* and, therefore, be ruled unconstitutional. The licences were typically valid for one month or one year. The licensing schemes were usually operated by the State Treasuries or, in the case of liquor, by an independent licensing board (Liquor Licensing Board or Liquor Commission).

Table 9.1: Basis for calculating franchise fees, as at 1 July 1997^a

<i>Licensed activity</i>	<i>Primarily levied on</i>	<i>States</i>	<i>Basis for licence fee</i>
Electricity	Suppliers	NSW, SA, Tas., Vic.	Percentage — value of sales
Gas	Suppliers	ACT, NSW, SA	Percentage — value of sales
Liquor	Retailers	All States	Percentage — value of purchases
Petrol products ^b	Wholesalers	NSW, SA, Tas., Vic.	Percentage — declared value
	Wholesalers ^c	ACT, NT, WA	Cents per litre
Tobacco	Wholesalers ^c	All States	Percentage — value of sales

a In addition to the fixed fee. Precise arrangements varied between States.

b Not levied in Queensland.

c Levied on the value of purchases by retailers in the Northern Territory.

Sources: NSW Treasury (1996, pp. 20–21), ACT Office of Financial Management (1996, pp. 10 & 13) and Government of South Australia (1997, pp. 5.1–5.2).

In some cases, State governments earmarked a portion of the revenue generated from *franchise fees* for individual projects. For example, since 1993, the Victorian Government has pledged three cents per litre of its *petroleum franchise fees* to fund road construction and maintenance (*Better Roads Levy*). In 1998–99, these arrangements were to be modified so that 45 per cent of revenue generated from *petroleum franchise fees* would fund the *Better Roads Levy* (State of Victoria 1997, p.87). As noted, the *alcohol levy* in the Northern Territory was put into a trust fund to deal with the adverse social effects associated with excessive alcohol consumption. Likewise, the February 1988

increase in Victorian *tobacco licence fees* was used to fund the activities of the Victorian Health Promotion Foundation. In many cases, this hypothecation of revenue explicitly recognised that, in addition to any effects on the individual undertaking the activity, many of the taxed activities had adverse external effects on wider society (called externalities).⁵ These externalities are discussed in more detail later in this chapter.

History

The Australian colonies taxed alcohol and tobacco long before the States themselves became self governing in 1855 (Smith 1993). In 1800, New South Wales became the first colony to tax alcohol, when Governor Hunter levied an *excise duty* to help fund the construction of a new gaol. Soon afterwards in 1802, New South Wales introduced the first *licence fees* for liquor retailers to help fund the construction of an orphanage. *Excise duties* in New South Wales were extended to include tobacco in 1825. *Customs* and *excise duties* remained the major source of revenue right up until the latter stages of the nineteenth century. Attempts at taxation reform were stifled by the wealthy pastoralists who controlled the political institutions of the day. With the spread of motor vehicles in the 1920s, the States quickly started taxing motor vehicles.

State *licence fees* generally emerged from *excise duties*. Prior to federation, the two often co-existed. With federation, the States agreed to cede their *excise duties* to the newly established Commonwealth Government, but not so their *licence fees*.

Throughout this century, the States, at various times, sought to extend the range of activities subject to *licence fees* to, amongst other things, pipelines, electricity and gas distributors, and X-rated videos. In some cases, the High Court affirmed the actions of the State, but mostly curtailed their ambitions.

In its 1997 budget, the South Australian Government abolished the 5 per cent *ETSA sales levy* from 1 July 1997 and announced it would phase out the gas sales levy over five years (Government of South Australia 1997, pp. 5.1–5.2). Tasmania phased down its *electricity consumption levy* from 1992–93, and it was abolished with effect from 1 July 1995 (Parliament of Tasmania 1997, p. 145).

⁵ Not all hypothecated revenue addressed externalities associated with the taxed activity. For example, the Victorian Government increased the franchise fees applying to motor spirit in November 1990 to ‘facilitate the payment of refunds to unsecured depositors with the Farrow Group of building societies’ (State of Victoria 1992, p. 24).

In addition to the three major *franchise fees*, a number of States levied other *franchise fees*. Electricity distributors were subject to taxation in Victoria, South Australia and, from 1 July 1997, New South Wales. Tasmania levied two duties on the sale of electricity — the *Hydro-Electric Commission statutory levy* and the *electricity consumption levy*.

Franchise fees and the Australian Constitution

The constitutional validity of *licence fees* has always been somewhat unclear. Section 90 of the Australian Constitution grants the Commonwealth Government exclusive power to levy *customs duties* and *excise duties* on goods. Over the years, there have been many High Court cases clarifying whether various State taxes, including *licence fees*, constituted *excise duties* over which they have no constitutional jurisdiction. Despite numerous High Court cases, their legality remained blurred and the source of much litigation.⁶ The Court initially opted for a narrow interpretation of an *excise duty*.⁷ Subsequent cases have progressively broadened the definition, thereby reducing the taxing powers available to the States.⁸

The decision of the High Court in the *Dennis Hotels case* went against the tide.⁹ The High Court found that, as part of the Victorian *Liquor Licensing Act 1958*, a fee payable on liquor sales in the proceeding twelve months did not constitute an *excise duty* and was, therefore, constitutionally valid. The NSW Tax Task Force (1988, p. 41) described the decision as:

... perhaps the most significant decision on s. 90 (section 90) in the past thirty years — and a decision which represents the greatest source of optimism for the revenue of each State.

This decision essentially validated State *franchise fees*. A number of subsequent decisions extended the licensing scheme approved under the *Dennis Hotels case* to other activities.¹⁰

⁶ Chapter 4 of the NSW Tax Task Force (1988) provides a good summary of progressive High Court decisions up to 1988 and their implications for State governments. This discussion draws on that material.

⁷ *Peterswald v. Bartley* (1904) 1 CLR 497.

⁸ For example, *Matthews v. Chicory Marketing Board (Victoria)* (1938) 60 CLR 263, *Parton v. Milk Board (Victoria)* (1949) 80 CLR 229, and *Browns Transport Pty Ltd v. Kropp* (1958) 100 CLR 117.

⁹ *Dennis Hotels Pty Ltd v. Victoria* (1961) 104 CLR 529.

¹⁰ For example, *Dickenson's Arcade Pty Ltd v. Tasmania* (1974) 1130 CLR 117, *H.C. Sleigh Ltd v. South Australia* (1977) 136 CLR 475, and *Edva Nominees Pty Ltd v. Victoria* (1984) 154 CLR 311.

Despite these decisions, other cases undermined various State licensing schemes, where the licence fee payable was calculated on the basis of previous activity (sales, fish caught, etc).¹¹

On 5 August 1997, the High Court ruled in the *Walter Hammond case* that the New South Wales *Tobacco Licence Fee* constituted an *excise duty* and was, therefore, unconstitutional.¹² The majority decision (Brennan CJ, McHugh, Gummow and Kirby JJ) reaffirmed the unanimous decision in *Bolton v. Madsen* that ‘a tax on the taking of a step in the process of the production or distribution of goods before they reach consumers is an excise’. The levying of the fee on previous sales did not affect the outcome so that the decision went against that in the *Dennis Hotels case*. This decision effectively invalidated *franchise fees* where the fee payable did not reflect the cost of administering the licence scheme.

To overcome the resulting shortfall in State government revenue, the Commonwealth agreed to increase uniformly the rates of *excise duty* applying to petroleum products and tobacco and the rate of *wholesales sales tax* (henceforth referred to as *sales tax*) applying to liquor on behalf of the State governments. The Commonwealth will transfer the revenue from this additional duty over to the State governments, who will, as far as practical, refund any additional revenue generated by the new arrangements back to taxpayers.

Legally, it appears that States can levy *franchise fees* that bear some resemblance to the costs of administering the licensing schemes. In *Capital Duplicators [No. 2]*, Mason CJ, Brennan, Deane and McHugh JJ found that the basic licence fee (the nominal fixed fee) was not an excise as it was ‘not calculated by reference to the quantity or value of goods supplied or offered for sale and is not a substantial fee’. *Franchise fees* cannot, however, be used to generate revenue beyond the cost of administering the licensing scheme.

As section 90 of the Australian Constitution applies only to taxes levied on goods, the States can conceivably tax services — either directly, or indirectly under a licensing scheme similar to the now defunct *franchise fees*. Indeed, this was the view of the NSW Tax Task Force (1988). However, the decision in the *Walter Hammond case* raises the important question of what constitutes a tax on

¹¹ For example, *Bolton v. Madsen* (1963) 110 CLR 561, *M.G. Kallis (1962) Pty Ltd v. Western Australia* (1974) 130 CLR 245, *Hematite Petroleum Pty. Ltd. v. Victoria* (1983) 151 CLR 599, *Gosford Meats Pty Ltd v. New South Wales* (1985) 155 CLR 368, and *Capital Duplicators Pty Limited v. Australian Capital Territory* (1993) 178 CLR 561.

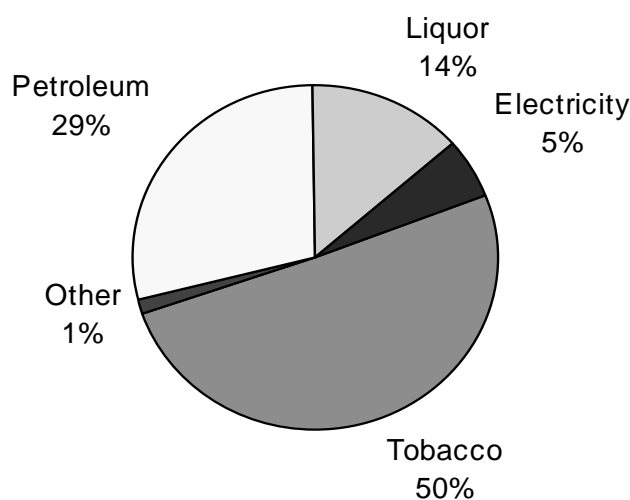
¹² *Ha and anor v. New South Wales & ors; Walter Hammond & Associates v. New South Wales & ors*, High Court of Australia, 5 August 1997, Matter No: S96/009.

goods, as opposed to services, and may yet restrict the ability of States to tax services.

Their importance as a source of revenue

Australia-wide, *franchise fees* raised \$5.2 billion in revenue in 1995–96, or 15 per cent of State own source tax revenue (Table 9.34 at the end of this chapter). This was equivalent to \$287 per person, although substantial variation existed between States. *Franchise fees* applying to tobacco (50 per cent), petroleum products (29 per cent) and liquor (14 per cent) accounted for the bulk of this revenue (Figure 9.1). Cumulatively, they generated 93 per cent of all revenue from *franchise fees*.

Figure 9.1: Revenue from franchise fees, Australia, 1995–96^a



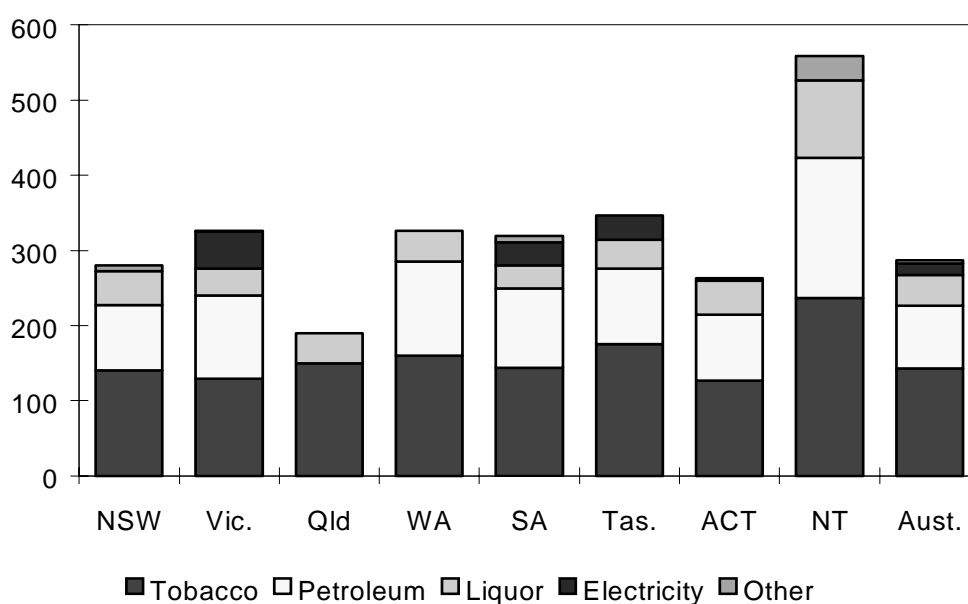
a Other comprises: *Gas franchise fees* (0.3 per cent), *NT Alcohol Levy* (0.2 per cent), and *Other taxes on use of goods nec* (1.0 per cent).

Sources: ABS 5506.0, Northern Territory of Australia (1996, p. 6), Parliament of Tasmania (1997, p. 145) and State of Victoria (1996, p. 318).

In 1995–96, residents of the Northern Territory paid almost twice as much in *franchise fees* as the Australian average — \$559 per person compared with the Australian average of \$287 per person (Figure 9.2). This was substantially more than the next highest State, Tasmania (\$346 per person). On the basis of individual *franchise fees*, the residents of the Northern Territory paid on average more in *franchise fees* on tobacco, petroleum and liquor than the residents of any other State (\$236, \$187 and \$102 per person, respectively). Conversely, the residents of Queensland paid the lowest average *franchise fees* in 1995–96 (\$189 per person), reflecting the absence of a *franchise fee* on

petroleum products. Of those States that levied *franchise fees*, the ACT (\$127 per person), New South Wales (\$87 per person) and South Australia (\$31 per person), respectively, had the lowest per capita fees for tobacco, petroleum products and liquor. These revenue comparisons do not, however, adjust for non-tax related differences between States.¹³

Figure 9.2: Per capita revenue from franchise fees, by State and type of fee, 1995–96 (\$ per person)^{ab}



a Other comprises: *Gas franchise fees*, and *Other taxes on use of goods nec* (1.2 per cent).

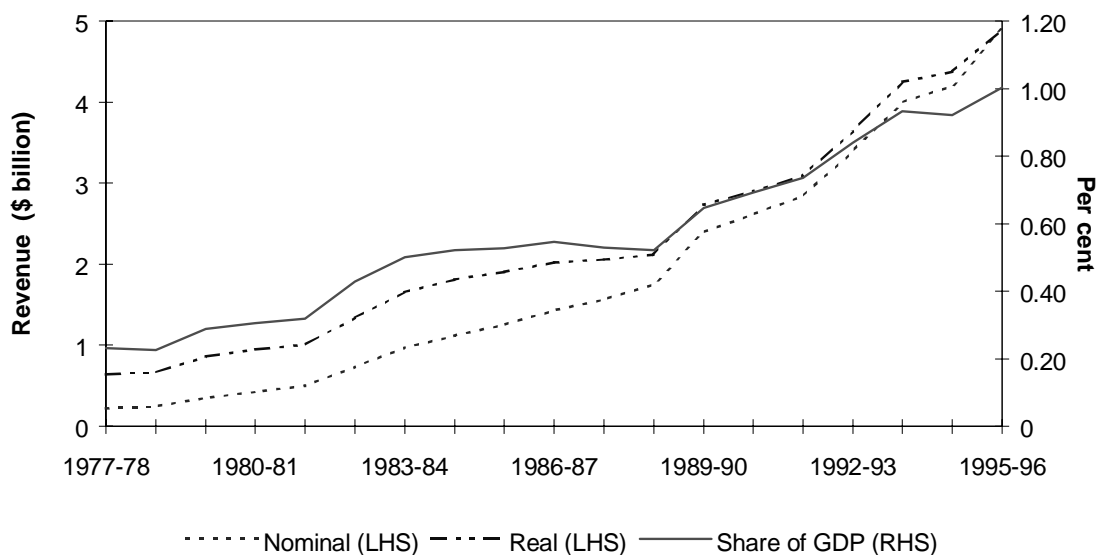
b The average liquor fee for the Northern Territory also includes the *Alcohol Levy*.

Sources: ABS 3201.0, 5506.0; Northern Territory of Australia (1996, p. 6); Parliament of Tasmania (1997, p. 145) and State of Victoria (1996, p. 318).

Over time, revenue from *franchise fees* steadily increased (Figure 9.3). Nominal revenue from gas, petroleum products, liquor, and tobacco *franchise fees* increased from \$221 million in 1977–78 to \$4.9 billion in 1995–96 (from \$642 million to \$4.9 billion in real terms). As a share of gross domestic product (GDP), revenue from these *franchise fees* increased from 0.2 to 1.0 per cent over the same period. This represents an average annual growth of 17 per cent in nominal terms, 11 per cent in real terms and 8 per cent as a share of GDP. This strong growth in revenue supports the view of the High Court in the *Walter Hammond case* that *franchise fees* represented a tax, rather than the licensing fees they once were.

¹³ While influenced by the amount of tax payable, consumption will also depend on other factors, such as the average distance travelled per year, the incidence of smoking, etc.

Figure 9.3: Revenue from franchise fees, Australia, 1977–78 to 1995–96^{ab}



a Franchise fees on gas, petroleum products, liquor and tobacco only. Excludes franchise fees on electricity and the alcohol levy (the Northern Territory).

b Real revenue deflated by consumer price index.

Sources: ABS 5220.0 and 5506.0.

Compliance costs

Complying with the licensing provisions of *franchise fees* generally required licence holders to:

- lodge an application to gain or renew a licence (sometimes monthly or yearly) accompanied by the appropriate licence fee;
- keep detailed records of all sales or purchases (whichever was relevant) in approved registers;
- submit a return detailing activity over a specified period (usually monthly or yearly);
- notify the responsible government agency (the equivalent of the State Revenue Office or Liquor Administration Board) of any purchases from unlicensed wholesalers or sales to unlicensed persons and pay the duty owing on these transactions (if appropriate);
- notify the responsible government agency of any interstate sales to claim a refund of duty (if appropriate); and
- comply with the directives (eg. to allow inspection of the licensed premises) of the responsible government agency (where appropriate).

In most cases, the responsible State government agency calculated the licence fee based on the information outlined in earlier returns.

In reviewing the licensing arrangements, the NSW Tax Task Force (1988) concluded that compliance costs associated with *petroleum* and *tobacco licences* were likely to be low, as a very high proportion of all revenue came from a small number of suppliers. Wholesalers only paid the variable component of the *licence fee*, if the petrol or tobacco was purchased from other than a NSW licensee. Nevertheless, all wholesalers and retailers were, in theory at least, required to submit monthly returns. In practice, it appears that these returns may have been dispensed with, if all purchases were made from a licensee (NSW Tax Task Force 1988, p. 98).

The licensing conditions were more onerous for liquor, however. Retailers and wholesalers were required to lodge an annual statement detailing, respectively, their purchases and sales to the Liquor Administration Board (or its equivalent). As with the other licence fees, there were other conditions imposed on licensees that were unrelated to raising tax revenue. Most of these extra conditions related to wider social issues — restricting access to minors, opening hours, the probity of licensees, etc. For liquor, and to a lesser extent tobacco, these non-revenue raising requirements were more onerous than for other licences.

Many of the costs incurred by licensees in complying with the legislation would, in all likelihood, have been incurred anyway as part of regular bookkeeping (eg. maintaining a register of sales). Nevertheless, the administrative arrangements did appear to impose additional costs on licences. It is not clear how significant these were. For annual licence holders, these additional costs may not have been particularly onerous.

Administration costs

It is difficult to draw firm conclusions about the cost of administering *franchise fees* across Australia as the administrative arrangements often differed significantly, especially those relating to liquor. In New South Wales, for example, the Office of State Revenue administered the licensing schemes for petroleum products and tobacco, but the Liquor Administration Board attached to the Department of Gaming and Racing, in conjunction with the Licensing Court, were responsible for liquor licensing. However, the Liquor Administration Board also undertook activities relating to the verification and collection of gaming revenue. Without a detailed breakdown of the costs accounted for by its gaming activities, a reliable estimate of the costs of administering *liquor franchise fees* in New South Wales is not possible. The other States, with the exception of Western Australia, do not provide a detailed split either.

Petroleum and tobacco licence fees appeared to be among the cheapest State taxes to administer (Table 9.2). In New South Wales, the average administration cost per thousand dollars of revenue was the lowest of all budget programs, at \$1.51. This made it slightly cheaper to administer than *payroll tax* (\$1.96) and considerably cheaper than either *stamp duties* (\$7.10) or *land tax* (\$38.72). Labour costs were clearly the major component of administrative costs (Figure 9.4). Despite the difficulty in obtaining a consistent estimate, the costs of administering *franchise fees* seemed to be declining over time (Figure 9.5).

Table 9.2: Administration costs, franchise fees, New South Wales, 1996–97^{ab}

<i>Tax</i>	<i>Administration cost^c</i>	<i>Revenue collected</i>	<i>Share of revenue</i>
	\$000	\$000	\$ per \$000
Petroleum & tobacco franchise fees	2 261	1 502 000	1.51
Payroll tax	6 154	3 146 372	1.96
Stamp duties	22 065	3 108 200	7.10
Land tax	24 199	625 000	38.72

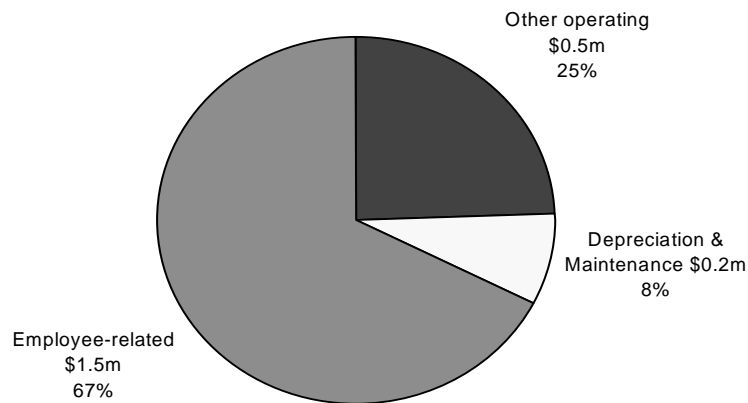
a Based on budget program information.

b Estimated actual data.

c Total expenses.

Sources: New South Wales (1997a, pp. 3–13; 1997b, pp. 661, 664, 667 & 670).

Figure 9.4: Administration costs, petroleum products and tobacco franchise fees, New South Wales, 1996–97



Source: New South Wales (1997b, p. 670).

Figure 9.5: Administration costs, petroleum products and tobacco franchise fees, New South Wales, 1982–83 to 1996–97 (percentage of revenue collected)



Sources: New South Wales (1997b, p. 670), NSW Office of State Revenue (1988 to 1996), NSW Department of Finance (1987) and NSW Tax Task Force (1988, p. 89).

In comparison with petroleum and tobacco, *liquor licence fees* appeared to be a relatively expensive tax to administer. While it is difficult to get a consistent costing for the reasons outlined above, it is nevertheless possible to obtain an

estimate based on program information contained within the NSW Budget Papers. In New South Wales, *liquor licence fees* were administered by the Department of Gaming and Racing. Budget program 46.2.1 was for *liquor and gaming compliance*, while program 46.2.3 was for *liquor and gaming revenue*. Collectively, these two programs cost \$11.5 million to administer in 1996–97 (excluding administrative overheads) and generated approximately \$829 million in revenue (New South Wales 1997a, pp. 3-12 to 3-13; 1997b, pp. 438 & 442). This represented an average collection cost of \$13.91 per thousand dollars of revenue. For liquor to have the same per unit collection costs as petroleum and tobacco (\$1.51 per thousand dollars of revenue, excluding administrative overheads), liquor would have to account for only 3.9 per cent of the combined administration costs, a result highly unlikely given that liquor generated 35.8 per cent of the combined revenue. These estimates suggest that the administration costs for *liquor licences* could be up to 10 times those for *petroleum* and *tobacco licences*. If correct, this could make *liquor licence fees* the second most expensive of the major State taxes to administer (behind *land tax*).

Western Australian budget data for 1996–97 confirm that the cost of administering liquor licences is higher than for most other State taxes — at least \$7.95 per thousand dollars of revenue raised (Government of Western Australia 1996, pp. 50-5 to 50-8, ABS 5506.0). The estimate covers the costs of the Licensing Court and liquor industry regulation (including allocated corporate overheads), where the latter includes revenue collection functions. This estimate places the cost of administering *liquor licence fees* in excess of five times the cost of administering *petroleum* and *tobacco licence fees*.

The ACT Attorney General's Department estimated the cost of various administrative processes for *liquor* and *X-rated video licences* in 1996–97 (ACT Government 1997b, p. 518). It estimated that each new *liquor* and *X-rated video licence* cost \$300 to administer. Disciplinary action for *liquor licences* cost \$1 100 on average, and inspections cost \$50 (liquor) and \$800 (X-rated videos).

One reason that *liquor fees* appeared expensive to administer in New South Wales is that the costs included not only those incurred by the responsible government department, but also the costs of the Liquor Administration Board and the Liquor Licensing Court. The Board is responsible for administering the relevant legislation and reviewing the standard of licensed premises, while the Court is responsible for granting liquor licences. All three agencies perform functions beyond collecting *liquor licence fee* revenue. It is possible to get separate compliance cost data for the department (program 62.2.1), but the data include gaming costs and the costs of performing checks unrelated to revenue

(eg. probity of licensees). If compliance costs of the department are excluded from the calculation, the average cost of collecting liquor and gaming revenue would fall to \$3.60 per thousand dollars of revenue collected. This would be broadly in line most other major State taxes, but considerably lower than *land tax*.

Another reason why *liquor licence fees* were relatively expensive to administer is that the revenue raising component, as opposed to the licensing component, was primarily directed at retailers, instead of wholesalers (Table 9.3).

Table 9.3: Number of licensees, franchise fees, Victoria, 30 June 1996

	<i>Tobacco</i> ^a	<i>Petroleum</i> ^b	<i>Liquor</i>
<i>No of licences:</i>			
Wholesale	15	5	455
Retail	7 460	1 757	7 792
Permits			2 154
Total	7 475	1 762	10 401
Revenue collected	\$590.8 million	\$505.4 million	\$160.7 million
Average revenue per licence holder ^c	\$79 000	\$287 000	\$15 000

a Revenue includes *health promotion levy*.

b Revenue includes *better roads levy*.

c Rounded to nearest thousand dollars.

Source: Victorian State Revenue Office (1996, p. 13).

Evasion and avoidance appear to be significant issues for *franchise fees*. A number of State Budget Papers and Treasury annual reports have highlighted the detection of unpaid *franchise fees*. The Northern Territory, for example, had been targeting petrol deliveries into the Territory to monitor and thereby reduce avoidance of *tobacco franchise fees* (Northern Territory of Australia 1996). Similarly, the NSW Office of State Revenue (1996) reported a number of joint operations with the NSW Crime Commission, the NSW Police Fraud Enforcement Agency and the Australian Customs Service to tackle the evasion of *tobacco licence fees*. Likewise, the ACT Office of Financial Management (1996) detected \$1.8 million in *franchise fees* mistakenly paid to the NSW Government. However, it is, of course, difficult to ascertain the magnitude of *licence fee* evasion.

In 1995–96, 597 Victorian investigations detected \$16.3 million in unpaid *franchise fees* — \$12.6 million for tobacco, \$2.7 million for petroleum, and \$1.0 million for liquor (Table 9.4). These additional revenues represented 2.1

per cent, 0.5 per cent, and 0.6 per cent of the respective total revenues collected. In comparison with other State taxes, the revenue detected was lower than for *financial institutions duty* (4.2 per cent) and on a par with *stamp duties* as a group (1.6 per cent). The revenue identified for *tobacco licence fees* in 1995–96 was down from 4.9 per cent in 1994–95.

Table 9.4: State tax revenue detected through investigations, Victoria, 1995–96

Tax	Number of cases completed	Revenue identified	Share of total revenue
	No.	\$ million	Per cent
Payroll tax	393	6.3	0.3
Stamp duties	339	29.4	1.6
Land tax	6	0.0	0.0
Tobacco licences	141	12.6	2.1
Petroleum licences	63	2.7	0.5
Liquor licences	381	1.0	0.6
Financial institutions duty	153	13.0	4.2
Betting tax	14	0.0	0.0
Total	1 490	65.0	1.1

Source: Victorian State Revenue Office (1996, pp. 9 & 60).

A major source of *licence fee* evasion and avoidance emanates from the State-based nature of these schemes, particularly where the wholesaler and retailer are located within different States, or where interstate differences in the tax rates occur. For taxes levied on wholesalers, retailers are required to pay the tax on their purchases, if the commodity was purchased from an unlicensed wholesaler (whether they reside within the State or not). It may be easy for a retailer to think that the tax has been paid, if an interstate wholesaler is licensed in their home State but not in the State in which the retailer resides. Interstate differences in tax rates motivated some people to break the law by moving commodities between States without paying the required tax. This was a problem for tobacco when Queensland had a considerably lower tax rate than New South Wales.

9.2 Petroleum products

How did petroleum franchise fees operate?

Petroleum franchise fees were primarily levied on wholesalers of specified products, except in the Northern Territory where they were primarily levied on retailers (Table 9.35 at the end of this chapter). Queensland did not levy *petroleum franchise fees*. For retailers who purchased their petroleum products from licensed wholesalers, a nominal flat fee was payable (ranging from an initial fee of \$10 to an annual fee of \$131). However, for retailers purchasing from unlicensed wholesalers, an additional variable fee (similar to those apply to wholesalers) was payable. In some States, the fixed fee was the same as that paid by wholesalers.

The licence fee paid by wholesalers consisted of two components — a flat charge (ranging from \$10 to \$52 per month) and a variable fee based on sales two months previously (that is, July's licence fee was calculated on the sales in May).

The variable component of the licence fee payable was calculated in two different ways. Western Australia, the ACT and the Northern Territory levied the fee (specified in cents per litre) on the number of litres sold or, in the case of the Northern Territory, purchased (Table 9.35). The remaining States specified the fee payable as a given percentage of the 'declared value' — a price per litre arbitrarily determined by the government and indexed in line with inflation — for each litre of petrol sold. This process effectively yielded a fee payable in cents per litre.

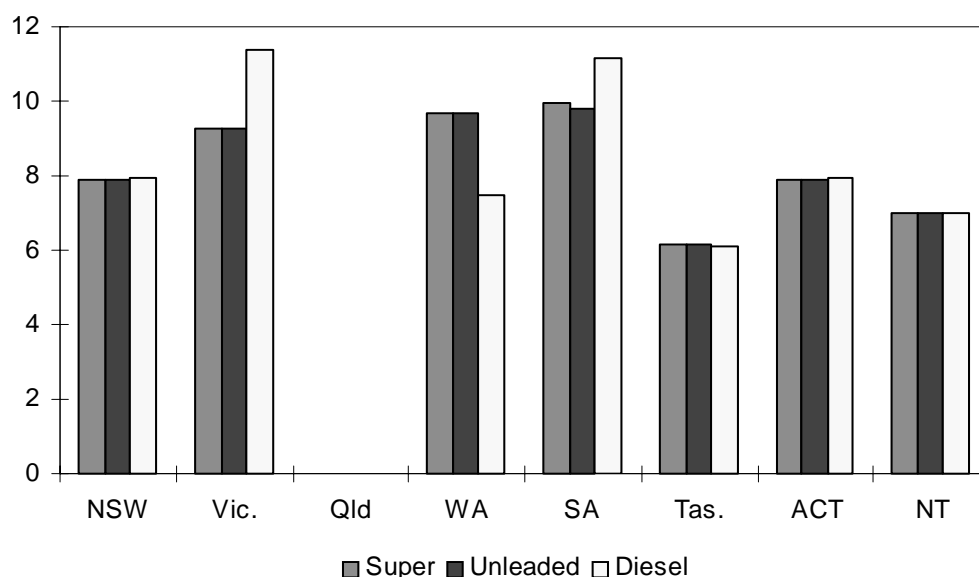
An example illustrates how the declared value method worked. In South Australia, the tax was levied on petroleum products sold by wholesalers within a 50 kilometre radius of the Adelaide General Post Office (zone 1) at the rates: 15.58 per cent for unleaded petrol, 17.78 per cent for diesel and 15.84 per cent for other petroleum products (mainly leaded or super petrol).¹⁴ These rates were then applied to a common 'declared value', irrespective of the actual wholesale or retail price. The declared value for all petroleum products was calculated by multiplying 55 cents per litre by the ratio of the consumer price index (all groups index for Adelaide) for the preceding March quarter to the same index for March quarter 1991. The result was then rounded to two decimal places. For the 12 months commencing 1 June 1996, the declared

¹⁴ The tax rates and methodology used in these calculations come from the South Australian *Petroleum Products Regulation Act 1995* (sections 4, 5 and 21). Data on the Adelaide all groups consumer price indices come from the dX database. The declared value calculated here agrees with that published by the NSW Treasury (1996, p.20).

value was 62.68 cents per litre ($= 55 \times 121.6/106.7$). Thus, the *licence fees* payable per litre sold were 9.77 cents for unleaded ($= 15.58\% \times 62.68$ cents), 11.14 cents for diesel ($= 17.78\% \times 62.68$ cents), and 9.93 cents for super ($= 15.84\% \times 62.68$ cents).

To enable a valid interstate comparison of taxes on petroleum products, it is necessary to convert the taxes specified as percentages of the declared value into cent per litre equivalents (Figure 9.6). South Australia (Adelaide) levied the highest tax rates on leaded and unleaded petrol (9.93 and 9.77 cents per litre, respectively), while Victoria levied the highest tax on diesel (11.39 cents per litre). Of those States levying *petroleum licence fees*, Tasmania had the lowest taxes on leaded, unleaded and diesel (6.15, 6.15 and 6.11 cents per litre, respectively). The tax applying in rural South Australia (zone 3 — 100 kilometres or more from the Adelaide General Post Office) was even lower (4.89, 9.77 and 6.11 cents per litre, respectively).

Figure 9.6: Franchise fees on petroleum products, by State, as at 1 July 1997 (cents per litre)^{ab}



a Diesel for road use only.

b Values for South Australia relate to zone 1 (within 50 kilometres of the Adelaide General Post Office).

Source: NSW Treasury (1996, p. 20).

These taxes are in addition to the *customs duties* and *excise duties* levied by the Commonwealth Government (Table 9.5). Like State *franchise fees*, *excise duties* are payable on domestically refined petroleum products and are levied on the basis of a specified number of cents per litre. The rates of duty are indexed

twice yearly in February and August in line with movements in the consumer price index. The Commonwealth taxes account for considerably more revenue than State *franchise fees*. Although detailed breakdowns are not available for *sales tax* and *customs duty, excise duty* on petroleum products raised \$10 224 million in 1995–96 (Table 9.6).

Table 9.5: Commonwealth rates of excise duty, selected commodities, as at 31 August 1997

<i>Commodity</i>	<i>Units</i>	<i>Initial excise duty^a</i>	<i>State supplement</i>	<i>New excise duty</i>
Leaded petrol	Cents per litre	36.872	8.1	44.972
Unleaded petrol	Cents per litre	34.697	8.1	42.797
Diesel	Cents per litre	34.697	8.1	42.797
<i>Beer:</i>				
normal strength (over 1.15 per cent)	\$ per litre of alcohol	15.890	b	15.890
low alcohol (under 1.15 per cent)	\$ per litre of alcohol	nil	nil	nil
<i>Potable spirits (distilled):</i>				
brandy (wine-based)	\$ per litre of alcohol	31.590	b	31.590
other spirits	\$ per litre of alcohol	36.990	b	36.990
Wine, wine products & other fermented alcohol	Nil	nil	b	nil
Tobacco	\$ per kilogram	84.270	2.650	86.92
	% of wholesale list price	nil	50.32	50.32

a Effective from 1 February 1997.

b Levied as a 15 percentage points increase in the rate of *sales tax*.

Sources: Commonwealth of Australia (1997, pp. 5-10 to 5-11) and Commonwealth Treasury (1997a, p. 1; 1997b, p. 1)

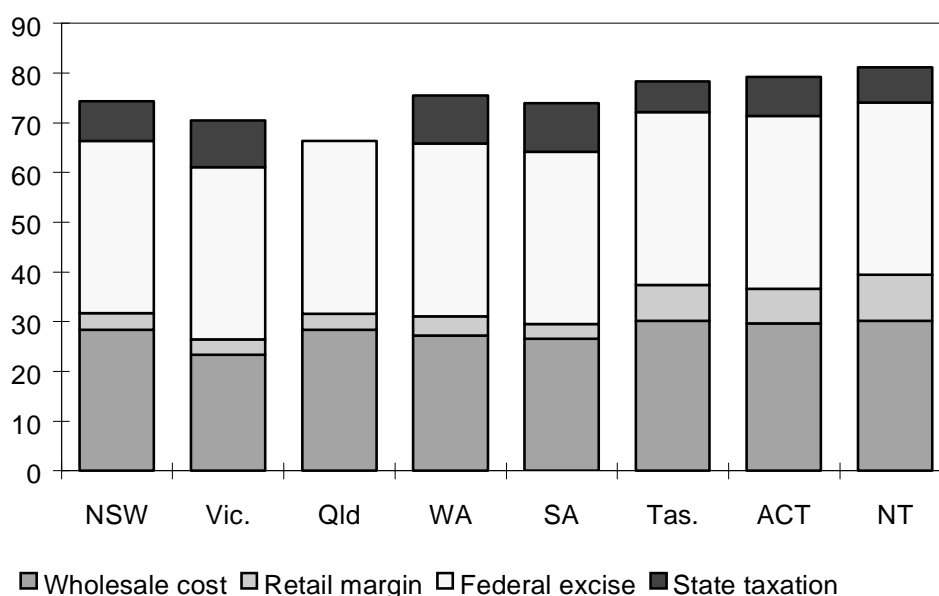
Cumulatively, Commonwealth and State taxes on unleaded petrol added between 34.7 and 44.5 cents per litre (Queensland and South Australia, respectively) to the average retail price in State capitals in April 1997 (Figure 9.7). Total taxes accounted for 51.4 to 62.5 per cent of the average retail price or 105.8 to 166.7 per cent of the average pre-tax price (both Northern Territory and Victoria, respectively). State taxes alone accounted for up to 13.2 per cent of the average retail price (South Australia) or up to 35.2 per cent of the pre-tax price (Victoria).

Table 9.6: Revenue from Commonwealth excise duty on petroleum products, Australia, 1995–96

<i>Petroleum product</i>	<i>Revenue</i>	<i>Share</i>
	\$ million	Per cent
Leaded petrol	2 563	25.1
Unleaded petrol	3 592	35.1
Diesel	3 921	38.4
Other ^a	148	1.4
Total excise duty on petroleum products	10 224	100.0

a Includes aviation gasoline, aviation turbine fuel, heating oil and kerosene and refunds/drawbacks relating to petroleum products excise.

Source: Commonwealth of Australia (1996, p. 4-36).

Figure 9.7: Unleaded petrol prices, by State, April 1997 (cents per litre)^a

a Retail margin includes freight costs and is defined as the difference between retail and wholesale prices.

Source: Ampol (1997).

Following the invalidation of *franchise fees* in the *Walter Hammond case*, the State governments approached the Commonwealth to introduce measures to protect State revenue. In response to this, the Commonwealth agreed to increase *customs duties* and *excise duties* applying to petroleum products by 8.1 cents per litre (Commonwealth Treasury 1997). This additional revenue will be

transferred to the States to cover the revenue forgone. The States will refund any excess to manufacturers or wholesalers that may arise from differenced between the 8.1 cent per litre Commonwealth rate and the previous State tax rates. To prevent claims over past *franchise fee* revenue, the Commonwealth agreed to introduce a 100 per cent windfall gains tax.

Effective rates of taxation

According to the Grants Commission, the average effective tax rate for *franchise fees* on petroleum products was 7 cents per litre (Table 9.7). However, this estimate was based on the on-road use of diesel only (Grants Commission 1997b, p. 141). If the off-road use of diesel was included, the average effective rate of taxation would be lower.¹⁵

Table 9.7: Average effective tax rates, State franchise fees on petroleum products, 1995–96^a

<i>State</i>	<i>Tax revenue per capita</i>	<i>Revenue base per capita</i>	<i>Average effective tax rate^b</i>
	\$ per person	litres per person	\$ per litre
New South Wales	88	1 237	0.07
Victoria	112	1 208	0.09
Queensland	–	1 288	na
Western Australia	127	1 456	0.09
South Australia	102	1 276	0.08
Tasmania	102	1 311	0.08
Australian Capital Territory	90	1 193	0.08
Northern Territory	191	2 134	0.09
Australia	84	1 273	0.07

a Excluding Commonwealth excise duties.

b Expressed as a percentage of the pre-tax price.

Source: Grants Commission (1997b, p. 146).

¹⁵ The inclusion in the tax base of diesel used for off-road purposes would be inappropriate, if the sole justification for taxing fuel was as a road use charge, as claimed by the Government of Western Australia (1996, p. 126).

Table 9.8: Average effective tax rates, State and Commonwealth taxes on unleaded petrol, 1995–96 (cents per litre)

<i>State</i>	<i>Franchise fees</i>	<i>Total taxation^a</i>	<i>Average retail price^b</i>	<i>Ave effective tax rate</i>	
				<i>Pre-tax</i>	<i>Post-tax</i>
New South Wales	7.51	41.69	70.7	59%	144%
Victoria	8.99	43.17	71.5	60%	152%
Queensland	0.00	34.18	62.2	55%	122%
Western Australia	9.67	43.85	72.5	60%	153%
South Australia	9.46	43.64	71.3	61%	158%
Tasmania	6.15	40.33	74.1	54%	119%
Australian Capital Territory	7.51	41.69	74.0	56%	129%
Northern Territory	7.00	41.18	77.4	53%	114%
Australia	6.87	41.05	69.8	59%	143%

a Excludes Commonwealth *customs duties* and *sales tax*.

b Average retail price for State capital.

Sources: ABS 6403.0, Commonwealth of Australia (1996, p. 10) and NSW Treasury (1995, p.17).

Table 9.9: Average effective tax rates, State and Commonwealth taxes on leaded petrol, 1995–96 (cents per litre)

<i>State</i>	<i>Franchise fees</i>	<i>Total taxation^a</i>	<i>Average retail price^b</i>	<i>Ave effective tax rate</i>	
				<i>Pre-tax</i>	<i>Post-tax</i>
New South Wales	7.51	43.84	70.7	62%	163%
Victoria	8.99	45.32	71.5	63%	173%
Queensland	0.00	36.33	62.2	58%	140%
Western Australia	9.67	46.00	72.5	63%	174%
South Australia	9.62	45.95	71.3	64%	181%
Tasmania	6.15	42.48	74.1	57%	134%
Australian Capital Territory	7.51	43.84	74.0	59%	145%
Northern Territory	7.00	43.33	77.4	56%	127%
Australia	6.87	43.20	69.8	62%	162%

a Excludes Commonwealth *customs duties* and *sales tax*.

b Average retail price for State capital.

Sources: ABS 6403.0, Commonwealth of Australia (1996, p. 10) and NSW Treasury (1995, p.17).

Commonwealth and State taxes on unleaded petrol accounted for between 53 and 61 per cent of the pre-tax price of petrol across States, or between 114 and 158 per cent of the pre-tax price (Table 9.8). Australia-wide, the average rates of tax on unleaded petrol were 59 per cent and 143 per cent, respectively.

The average effective tax rates were marginally higher for leaded petrol (62 and 162 per cent, respectively), primarily reflecting the higher rate of *excise duty* that applies to leaded petrol (Table 9.9).

Revenue raising capacity and effort

The Grants Commission assessed the revenue raising potential of each State by calculating the size of their per capita tax base (total number of kilometres travelled per person in that State) relative to the Australian average. The Grants Commission did not adjust for differences in population density and area (or remoteness). Thus, the residents of the larger, less densely populated States, most notably the Northern Territory and Western Australia, were assessed to have a better revenue raising potential than the smaller, more densely populated States (Table 9.10).

Table 9.10: Indices of revenue raising capacity and effort, State franchise fees on petroleum products, 1995–96

<i>State</i>	<i>Capacity</i> ^a	<i>Effort</i> ^b
New South Wales	97.2	107.4
Victoria	94.9	140.4
Queensland	101.2	0.0
Western Australia	114.3	131.8
South Australia	100.2	121.0
Tasmania	103.0	188.4
Australian Capital Territory	93.7	114.0
Northern Territory	167.7	135.8
Australia	100.0	100.0

a Indicates the ability of a State to raise revenue relative to the Australian average.

b Indicates the efforts made by individual States to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997b, p. 147).

In terms of revenue raising effort, the Grants Commission assessed that Tasmania made a considerably higher effort to raise revenue from *petroleum franchise fees* in 1995–96 than did any other State (Table 9.10). As Queensland

did not tax petroleum, the Grants Commission assessed it to have the lowest revenue raising effort. New South Wales was assessed to have the lowest revenue raising effort of the remaining States.

Exemptions

All States, except Tasmania, exempted the off-road use of diesel from the *petroleum franchise fees*. In Western Australia, the exemption reflects the fact that '[fuel franchise] fees are characterised as road user charges in this State' (Government of Western Australia 1997b, p. 126). Off-road use includes the use of diesel in 'marine vessels, heating plant in commercial buildings, bulldozers and a range of other equipment used for off-road purposes' (NSW Office of State Revenue 1996, pp. 24–25). The exemption to the off-road use of diesel in Western Australian was valued at \$165 million in 1996–97, or 73.7 per cent of the revenue collected (Government of Western Australia 1997a, p. 11; 1997b, p. 124).

Efficiency

In most States, the absence of uniform *franchise fees* for petroleum-based fuels — leaded petrol, unleaded petrol, diesel used for on-road purposes, and LPG — may, at the margin, give rise to some loss in efficiency by distorting relative prices. The resulting loss is, however, likely to be small as the price differentials are minor.

Table 9.11: Summary of Albon's estimates of the efficiency losses from selected State and Commonwealth taxes, Australia^a

<i>Commodity</i>	<i>Ad valorem tax rate</i>	<i>Uncompensated elasticity of demand</i> ^b	<i>Marginal excess burden</i>
	Per cent		cents per \$ of revenue
Wine	42	-0.3 to -0.6	10 to 22
Beer	89	-0.25 to -0.73	13 to 52
Spirits	234	-0.81	131
Tobacco	211	-0.40	37
Leaded petrol	130	-0.57	48
Unleaded petrol	120	-0.57	45

a Partial equilibrium measures of excess burden.

b The percentage change in demand attributable to a one per cent change in the price of the commodity.

Source: Albon (1997a, p. 275).

Albon (1997a) assessed the efficiency losses associated with petroleum taxes — including *State franchise fees* — assuming that there are no external costs or externalities and assuming an infinite elasticity of supply (Table 9.11). He found that the marginal excess burden (that is, the loss in efficiency) of Commonwealth and State taxes combined on unleaded and leaded petrol were, respectively, 45 and 48 cents per dollar of revenue raised. These estimates are based on an uncompensated elasticity of demand of -0.57 being used as a proxy for the compensated elasticity, and ad valorem tax rates of 120 and 130 per cent, respectively. In comparison with other commodities subject to State taxation, these estimates are in the mid-range — higher than wine and possibly beer, but considerably below those on spirits.

The efficiency losses are likely to be substantially smaller than this if Commonwealth and State taxes are seen as covering the infrastructure costs or externalities associated with motor vehicles use — road construction and maintenance, traffic accidents, pollution, congestion and so forth. The most efficient outcome would involve levying a tax (called a Pigouvian tax) so that, at the margin, the private benefits from motor vehicle use just equal the total costs to society of motor vehicle use (that is, private plus social costs).¹⁶

In calculating the private cost of motoring, all tax revenue paid by motorists should be taken into account, not just the *franchise fees* paid on petroleum products. Australian motorists are subject to a number of different taxes (Table 9.12). In 1995–96, Commonwealth and State taxes on motor vehicles raised at least \$13.5 billion, with *State franchise fees* accounting for 10 per cent of this revenue. Unfortunately, it is not possible to separate out the *sales tax* and *customs duty* paid on motor vehicles from the published totals. Yet, both taxes are substantial in their own right.¹⁷ Their omission, therefore, places a downward bias on the degree of social cost recovery from motor vehicles.

The external costs associated with motor vehicle use are difficult to quantify. To the extent that they are quantifiable, they will vary depending on:

- location (between States, within a State, urban verses rural, etc) and time of use;

¹⁶ To the extent that motor vehicle use produces external social benefits, these should be included as well.

¹⁷ The total tax revenues from *sales tax* and *customs duty* levied on *all* goods were \$12 955 million and \$3 124 million, respectively, in 1995–96 (Commonwealth of Australia 1996, p. 4-36).

Table 9.12: State and Commonwealth taxes on the ownership or use of motor vehicles, Australia, 1995–96 (\$ million)

<i>Tax</i>	<i>Levying jurisdiction</i>	<i>Revenue</i>
Excise duty on petroleum products ^a	Commonwealth	8 374
Vehicle registration fees	State	2 022
Petroleum products franchise fees	State	1 531
Stamp duty on motor vehicle registration	State	1 050
Drivers' licences	State	281
Tolls ^b	State	138
Road transport & maintenance taxes	State	101
Motor vehicle taxes	Commonwealth	35
Federal interstate registration fees	Commonwealth	29
Sales tax	Commonwealth	nsr
Customs duty (tariffs on imports)	Commonwealth	nsr
Fines	State and local	nsr
Total taxes on motor vehicles		13 526

a BTCE estimate based on actual collections of Commonwealth *excise duty* from petroleum products (excluding aviation gasoline, aviation turbine fuel, heating oil and kerosene and refunds/drawbacks relating to petroleum products excise) less diesel used for marine purposes.

b Comprises tolls collected from the Gateway Bridge and Logan Motorway in Queensland and from the Sydney Harbour Bridge and Harbour Tunnel in New South Wales.

Sources: ABS 5506.0 and BTCE (1997b).

- vehicle type and characteristics (car verses truck or motor bike, maintenance, vehicle weight, load weight and distribution, the number of axles, average fuel consumption, etc);
- driver characteristics (sex, age, average speed, driving style, etc); and
- condition (weather conditions, the state of the road, driver condition, etc).

Many of the estimates are open to considerable debate, both from a scientific and economic viewpoint, and are often sensitive to the parameters chosen. As a result, the estimates discussed below should be treated with caution.

The Victorian Environment Protection Authority (1994, p. 8) provided indicative estimates from the available literature of the external costs associated with road transport in Australia (Table 9.13). These estimates suggest that the external costs amount to approximately \$10 billion Australia-wide.

Table 9.13: Indicative external costs of transport, Australia, 1995–96

<i>External cost</i>	<i>Share of GDP^a</i>	<i>Estimated cost</i>
	Per cent	\$ million
Noise	0.1	489
Emissions	0.2	978
Accidents	0.6	2 934
Congestion	1.1	5 380
Total external costs	2.0	9 782

a Gross domestic product was \$489 082 million (GDP(I)).

Source: Calculated from Victorian Environment Protection Authority (1994, p. 8).

Table 9.14: Estimated cost of selected transport externalities, Victoria, (1992 \$ million per year)^a

<i>Effect</i>	<i>Region</i>	<i>Year</i>	<i>Estimated cost</i>
Noise	Melbourne	1992	43 to 86 ^b
<i>Health effects:</i>			
motor vehicle-sourced ozone	Melbourne	1992–93	0.3 to 4.4
cancer from toxic air emissions	Melbourne	1990	26.0 to 45.2
<i>Road accidents:</i> ^c			
person costs	Victoria	1988	558
incident costs	Victoria	1988	633
<i>Congestion costs:</i>			
vehicle operating costs	Melbourne	1991	582
travel time costs	Melbourne	1991	2 031
Total externalities costed			3 873.3 to 3 939.6

a Excludes the non-health effects of greenhouse gas and other emissions.

b Assuming noise depreciation factors of 0.5 and 1 per cent of value per decibel, respectively.

c Assuming that 30 per cent of total accident costs are external (based on an estimate by the OECD).

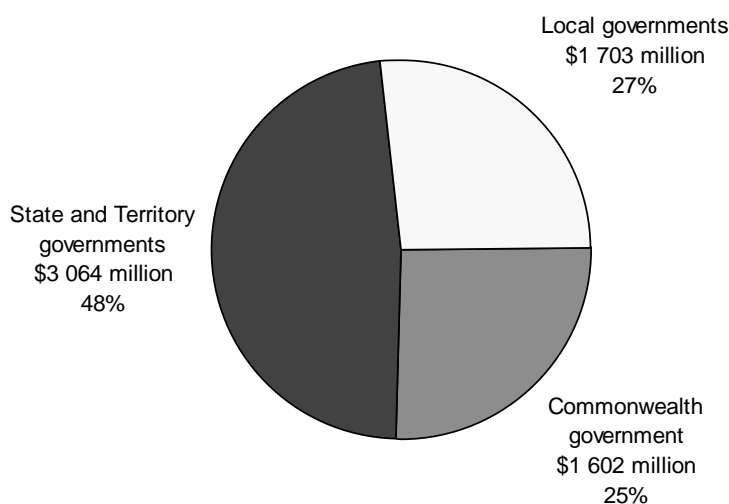
Source: Victorian Environment Protection Authority (1994, pp. 10, 12, 15 & 16).

The Victorian Environment Protection Authority (1994) then proceeded to cost individual externalities for Melbourne or Victoria (Table 9.14). These Victorian estimates suggest that the Australia-wide estimates may underestimate, perhaps considerably, the external costs associated with road transport use. The Victorian estimates suggest that the external costs associated

with road transport in Victoria, excluding expenditure on road construction and maintenance, could be almost \$4 billion per year in 1992 dollars.

There are many different ways of obtaining a national estimate of the external costs from this Victorian estimate, each with their strengths and weaknesses (eg. on the basis of passenger kilometres travelled, motor vehicle ownership, population, or motor accidents). If Victoria's share of national expenditure on roads is used (BTCE 1997a, p. 2), the external costs Australia-wide (excluding the cost of road construction and maintenance) could be in the order of \$20 billion per year. In addition, Australian governments spent \$6 369 million on road construction and maintenance in 1995–96 (Figure 9.8).¹⁸ Thus, the national estimate of the infrastructure and external costs of road transport would be in the order of \$25 to \$30 billion per year — about twice as high as the revenue raised from taxes on motor vehicles in 1995–96 (Table 9.12).

Figure 9.8: Road related expenditure, by level of government, Australia, 1995–96



Source: BTCE (1997a, p. 1).

These estimates suggest that Commonwealth and State taxes on motor vehicles may not cover the infrastructure and external costs associated with motor vehicle use. Thus, the efficiency losses from Commonwealth and State taxation may not be in the form of a marginal excess burden, but rather a marginal

¹⁸ To the extent that governments levy tolls on road use, the entire cost of road construction and maintenance will overestimate the amount needed to be recouped through taxation. However, the use of tolls on public roads in Australia is relatively minor.

insufficient burden. However, further research is needed to ascertain whether this is indeed the case.

In assessing the efficiency impact of taxes on petroleum products, it is necessary to apportion the externalities associated with these products both between the Commonwealth and State governments and among the various different fuel types. Externalities whose impacts are mainly localised in nature, such as congestion and noise, were allocated entirely to the States (Table 9.15). Externalities that impact on the wider population, such as health and road accident effects, along with the construction and maintenance of roads, were split between the Commonwealth and State governments.

Table 9.15: Allocation of petroleum externalities between the Commonwealth and the States (\$ million)

<i>Externality type</i>	<i>Commonwealth</i>	<i>States</i>	<i>Total externality</i>
Noise ^a	0	226	226
Health effects ^a	48	89	139
Road accidents ^b	2 194	4 075	6 269
Congestion costs ^c	0	5 226	5 226
<i>Sub-total :</i>			
in 1992 dollars	2 242	9 617	11 859
in 1996 dollars ^d	2 397	10 279	12 676
Road construction and maintenance ^e	1 602	4 767	6 369
Total externality	3 999	15 046	19 405
Share	21%	79%	100%

a Noise costs ranged from \$226 million to \$453 million. The external health costs, which consisted of ozone emissions attributable to motor vehicles and cancer due to various toxic emissions, ranged from \$139 million to \$361 million. The lower estimates have been used in the MXSB calculations.

b External road accident costs include both person costs and incident costs.

c Congestion costs consist of vehicle operating costs and travel time costs.

d Inflated using the implicit GDP deflator.

e Road construction and maintenance costs are measured in terms of 1996 dollars.

Sources: Estimates based on Victorian Environment Protection Authority (1994, pp. 10, 12, 15 & 16), BTCE (1997a, p. 1) and dX database.

Health and road accident effects were allocated to each tier of government according to its share of hospital expenditure (Table 9.16), that is, 65 per cent of these external costs were allocated to the State governments. Road construction and maintenance costs were similarly divided between the States

and the Commonwealth according to their share of total expenditure on roads, that is 79 per cent of these external costs were allocated to the State governments (BTCE 1997a).¹⁹

Table 9.16: Expenditure on hospital services, by State, 1995–96

<i>Government</i>	<i>Expenditure</i>	<i>Share</i>
	\$ million	Per cent
New South Wales	3 724	24.6
Victoria	2 160	14.3
Queensland	1 594	10.5
Western Australia	932	6.2
South Australia	697	4.6
Tasmania	221	1.4
Australian Capital Territory	195	1.3
Northern Territory	125	0.8
States	9 648	63.7
Commonwealth	5 942	36.3
Australian Total	15 140	100.00

Sources: Grants Commission (1997a, p. 152) and Commonwealth of Australia (1996, p. 3-97).

The external costs of different fuels need not be identical. For example, leaded fuel may generate external costs that are not associated with unleaded fuel. While a completely accurate estimate of the efficiency effects of the taxation of petroleum products would require a detailed analysis of these individual effects, such an assessment is beyond the scope of this paper. As a first order approximation, the total externality is divided among the various fuels according to their implied share of total consumption (Table 9.17). While this allocation may not be appropriate for health costs not attributable to road accidents, these form a very small portion of the total externality attributable to petroleum products used in transport (Victorian Environment Protection Authority 1994).

¹⁹ In calculating the road expenditure shares, local government expenditure was included with State government expenditure.

Table 9.17: Estimated implied fuel consumption, Australia, 1996–97

<i>Fuel type</i>	<i>Road transport</i>	<i>Share</i>
	millions of litres	Per cent
Automotive gasoline–leaded	6 865	27
Automotive gasoline–unleaded	11 491	45
Automotive diesel oil	5 953	23
Liquefied petroleum gas	1 234	5
Total energy consumption	2 5544	100

a Calculated by converting the energy consumption (expressed in petajoules) into millions of litres using the energy content by volume (expressed in petajoules per litre).

Source: ABARE (1993, pp. 52 & 112).

In assessing the efficiency impact of taxes on petroleum products, it is also necessary to have estimates of the relevant elasticities of demand. The uncompensated own price elasticity of demand for petroleum products in Australia, according to Hensher and Young (1991), ranges in absolute value terms from 0.54 to 0.71 (Table 9.18). In Sydney, the elasticity is 0.66. For the purposes of this analysis, this estimate should be converted to a compensated elasticity, using the method outlined in Appendix B. This requires an estimate of the income elasticity of demand for petroleum products. A number of such estimates are presented in Table 9.19.

While the income elasticity estimates cover a wide range of values — varying from +0.09 to +0.87 in the short run and from +0.32 to +1.54 in the long run — a reasonable choice would appear to be +0.90, a value which falls in the middle of the range for long-run income elasticity estimates and is only just above the upper limit of the short-run income elasticity estimates. The relevant budget share is calculated as the ratio of expenditure on petrol for transport purposes to average weekly household income. Using data from the Household Expenditure Survey for 1993–94 (ABS 6535.0), the value is about 3.30 per cent. Combining these results, as outlined in Appendix B, gives an estimate of the compensated own-price elasticity of demand for petroleum products of -0.63.

For elasticities of supply, this paper adopts Albon's assumption of an infinite elasticity of supply for goods subject to *franchise fees*. This implicitly assumes that the markets for these goods are competitive in the long run.

Table 9.18: Uncompensated own-price elasticity of demand for petroleum products^a

<i>Author</i>	<i>Country</i>	<i>Short run</i>	<i>Long run</i>
Houthakker & Taylor (1966)	USA	-0.16	-0.45
Phlips (1972)	USA	-0.11	-0.68
Data Resources Inc (1973)	USA	-0.07 to -0.14	-0.24 to -0.32
Ramsey et al (1975)	USA	ne	-0.77
Folie (1977)	Australia	-0.04 to -0.38	-0.14 to -0.77
Kraft & Rodekohr (1978)	USA	0.00 to -0.62	ne
Mehta, Narasimham & Swamy (1978)	USA	-0.04	ne
Schou & Johnson (1979)	Australia	-0.02 to -0.08	ne
Donnelly (1979)	USA	-0.16	-0.84
Nordhaus (1979)	USA	-0.22	-0.76
Sweeney (1979)	USA	-0.12	-0.73
Brain & Schuyers (1980)	Australia	-0.11	-0.22
Hughes (1980)	New Zealand	-0.11	-0.14
Kraft & Rodekohr (1980)	USA	-0.20	-0.72
Ostro & Naroff (1980)	USA	ne	-0.75
Donnelly (1981)	Australia	-0.11	-0.30 to -0.69
Donnelly (1982)	Australia	-0.10 to -0.12	-0.40 to -0.67
Beesley & Kemp (1987)	USA & UK	-0.2 to -0.3	-0.3 to -1.4
Hensher & Young (1991)	Australia	ne	-0.54 to -0.71
Hensher & Young (1991)	Sydney	ne	-0.66
Goodwin (1992) – time series	Various	-0.27	-0.71
Goodwin (1992) – cross section	Various	-0.28	-0.84

a The percentage change in the demand for petrol or diesel caused by a one per cent change in the price of petrol or diesel.

Sources: IC (1994a, Appendix B, p. 42), Donnelly (1982) and Hensher and Young (1991).

Table 9.19: Income elasticity of demand for petroleum products^a

<i>Author</i>	<i>Country</i>	<i>Short run</i>	<i>Long run</i>
Philips (1972)	USA	+0.58	+1.54
Data Resources Inc. (1973)	USA	+0.28 to +0.45	+0.94 to +1.03
Ramsey, Rasche & Allen (1975)	USA	ne	+1.34
Folie (1977)	Australia	+0.28 to +0.86	+0.90 to +1.52
Kraft & Rodekohr (1978)	USA	+0.44 to +0.75	ne
Mehta, Narasimham & Swamy (1978)	USA	+0.87	ne
Schou & Johnson (1979)	Australia	+0.63	ne
Donnelly (1979)	USA	+0.17	+0.88
Nordhaus (1979)	USA	+0.39	+0.84
Sweeney (1979)	USA	+0.85	+0.78
Brain & Schuyers (1980)	Australia	+0.72	ne
Hughes (1980)	New Zealand	+0.57	+0.79
Kraft & Rodekohr (1980)	USA	+0.14	+0.49
Ostro & Naroff (1980)	USA	ne	+0.32
Donnelly (1981)	Australia	+0.09 to +0.26	+0.57 to +0.87
Donnelly (1982)	Australia	+0.12 to +0.19	+0.66
Dargay & Gately (1997)	OECD	+0.19 to +0.34	+0.68 to +1.13

a The percentage change in the demand for petrol or diesel caused by a one per cent change in income.

Sources: Donnelly (1982) and Dargay and Gately (1997).

Using these elasticities of supply and demand, and the estimates of external costs of petroleum use above, the marginal excess burden of State taxes on petroleum products can be calculated, taking existing Commonwealth taxation of petroleum as given. The results are shown in Tables 4.3 and 4.4 of Chapter 4. Without externalities, the results are in the range of 39 to 41 cents per dollar of revenue raised, similar to those of Albon (1997a) and higher than any other tax except for the *liquor franchise fee* on spirits.

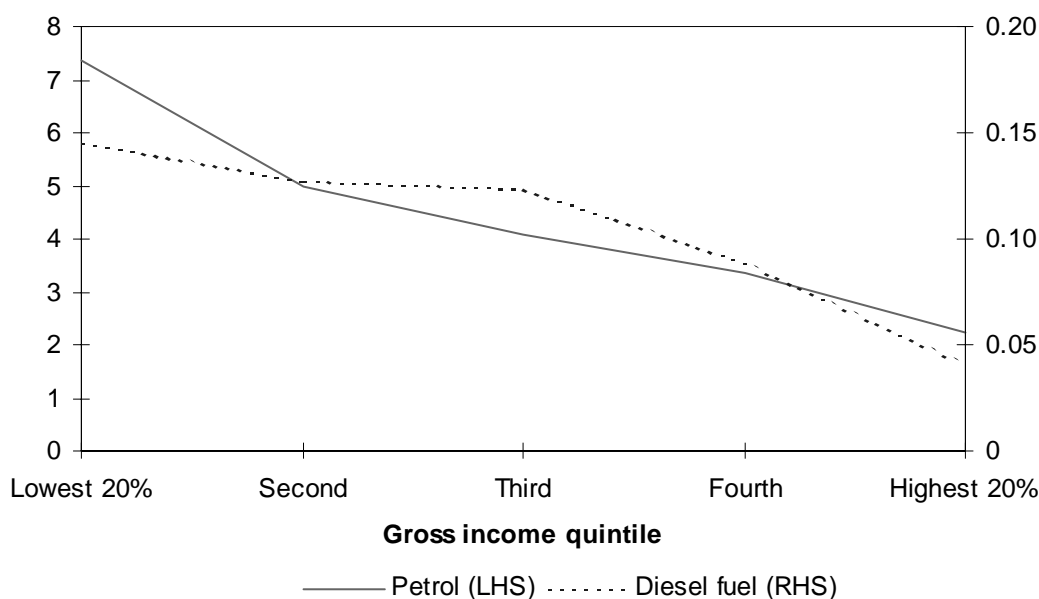
But when it is recognised that State taxation may be required to cover external costs born at the State level, the estimated efficiency losses from State petroleum taxation fall dramatically, to between 4 and 6 cents per dollar of revenue raised. The effective tax rates shown in Table 4.4 suggest that State taxes on petroleum products are too low to cover the external costs that have

been allocated here to the States.²⁰ The State taxes nevertheless impose a small net excess burden, because they are imposed on top of very high rates of Commonwealth taxation, thereby exacerbating the inefficiencies of those taxes. Overall, however, State taxes on petroleum products appear to impose relatively low efficiency costs.

Equity

Household expenditure on petroleum products declines as a share of gross household income — both for petrol and for diesel (Figure 9.9). Thus, the impact of *petroleum licence fees* appears to be regressive, impacting more heavily on low income households. In addition, the less affluent are more likely to own older cars that run on leaded petrol, as opposed to the new cars that run on unleaded petrol, making the impact even more regressive.

Figure 9.9: Household expenditure on petroleum products, by quintile, Australia, 1993–94 (percentage of average weekly income)



Source: ABS 6535.0.

²⁰ Against this, it should be noted that Commonwealth *excise taxes* appear too high to be justified solely by the external costs born by the Commonwealth.

9.3 Tobacco

How did tobacco franchise fees operate?

Tobacco franchise fees were primarily imposed on wholesalers of tobacco, except in the Northern Territory, where they were primarily levied on retailers (Table 9.36 at the end of this chapter). For retailers who purchased their tobacco products from licensed wholesalers, a nominal flat fee was payable (ranging from \$10 to \$120 per year). However, for retailers purchasing from unlicensed wholesalers, an additional variable fee (similar to those apply to wholesalers) was payable. In some States, the fixed fee was the same as that paid by wholesalers.

The licence fee paid by wholesalers consisted of two components — a flat charge (ranging from nothing to \$20 per month) and a variable fee of 100 per cent of sales two months previously (that is, July's *licence fee* was calculated on the sales in May).

Domestically produced tobacco is also subject to Commonwealth *excise duty*. The Commonwealth excise duty is levied in dollars per kilogram and is indexed in line with increases in the consumer price index. Since February 1997, the Commonwealth rate of duty applying to tobacco products on its own behalf has stood at \$84.27 per kilogram (Commonwealth of Australia 1997, p. 5-11).²¹ *Customs duty* operates in exactly the same way as *excise duty*, except that it applies to imports. Unlike petrol and most forms of alcohol, tobacco is exempt from Commonwealth *sales tax*. Commonwealth *excise duty* on tobacco products raised \$1 585 million in revenue in 1995–96 (Commonwealth of Australia 1996, p. 4-36).

In 1995–96, the combined Commonwealth and State taxes on tobacco were equivalent to 211 per cent of the pre-tax value of tobacco (Albon 1997a, 1998).

Following the *Walter Hammond case*, the Commonwealth initially agreed to increase the rate of *customs* and *excise duty* applying to tobacco by \$167 per kilogram (Commonwealth Treasury 1997a, p. 1). However, it subsequently announced substantial modifications to these arrangements (Commonwealth Treasury 1997b, p. 1). Under the present arrangements, the Commonwealth now levies additional *excise duty* on behalf of the States at a rate of \$2.65 per kilogram of tobacco plus an ad valorem tax of 50.32 per cent of the wholesale

²¹ Normally, the Commonwealth Government indexes the rates of *customs duty* and *excise duty* in August and February each year in line with movements in the consumer price index (all groups, weighted average of the eight capital cities). Indexation did not occur in August 1997 and February 1998, however, as the consumer price index fell in the preceding June and December quarters.

list price, where the wholesale list price relates to the wholesale value of 1 000 sticks (for cigarettes) or per kilogram of tobacco (for tobacco).²² This additional revenue will be transferred to the States to cover the revenue forgone. The States will refund any excess to manufacturers or wholesalers arising from differences between the Commonwealth and the previous State tax rates. To prevent claims over past *franchise fee* revenue, the Commonwealth agreed to introduce a 100 per cent windfall gains tax.

Effective rates of taxation

The average effective rate of *tobacco franchise fees* across Australia was 93.7 per cent in 1995–96 (Table 9.20).

Table 9.20: Average effective tax rates, State franchise fees on tobacco, 1995–96^a

<i>State</i>	<i>Tax revenue per capita</i>	<i>Revenue base per capita</i>	<i>Average effective tax rate</i>
	\$ per person	\$ per person	Per cent
New South Wales	141.5	143.4	98.7
Victoria	130.7	134.6	97.1
Queensland	151.0	192.7	78.3
Western Australia	161.2	163.3	98.7
South Australia	143.3	145.2	98.7
Tasmania	174.7	177.0	98.7
Australian Capital Territory	128.8	130.4	98.7
Northern Territory	245.5	248.7	98.7
Australia	144.3	153.9	93.7

a Excluding Commonwealth *excise duty*.

Source: Grants Commission (1997b, p. 155).

The Grants Commission assessed most States to have an identical average effective tax rate of 98.7 per cent. Queensland had a lower statutory rate of taxation (75 per cent compared with 100 per cent in the other States), so was

²² This means that *excise duty* is levied at a rate of \$86.92 per kilogram of tobacco, plus 50.32 per cent of the wholesale list price, which is in the order of \$230 per kilogram of tobacco. The Commonwealth keeps \$84.27 per kilogram and passes the remainder to the States to replace the revenue lost from *franchise fees*.

assessed to have the lowest average effective tax rate (78.3 per cent). Queensland has since increased its statutory tax rate to 100 per cent.

Revenue raising capacity and effort

The ability to raise revenue from *tobacco franchise fees* depends on the extent of smoking relative to the Australian average. Per capita expenditure on smoking is highest in the Northern Territory, Queensland and Tasmania. Thus, the Grants Commission assessed these States to be better placed to raise revenue through *tobacco franchise fees* than the remaining States (Table 9.21). Conversely, according to the Commonwealth Grants Commission, the ACT and Victoria had less scope to raise revenue through *franchise fees*. In making its assessments, the Grants Commission adjusted the wholesale values of tobacco products sold in each State to reflect interstate differences in the rate of taxation. However, the Grants Commission assessments were influenced by the whether or not State governments actively discouraged smoking. An active anti-smoking campaign would translate into lower expenditure per capita on smoking and, hence, a lower revenue raising capacity.

In terms of revenue raising effort, the Grants Commission assessed that most States, except Queensland, made a similar effort to raise revenue from *tobacco franchise fees* in 1995–96 (Table 9.21). Queensland's lower revenue raising effort reflected its lower tax rate.

Table 9.21: Indices of revenue raising capacity and effort, State franchise fees on tobacco, 1995–96

<i>State</i>	<i>Capacity</i> ^a	<i>Effort</i> ^b
New South Wales	93.1	105.4
Victoria	87.4	103.6
Queensland	125.2	83.6
Western Australia	106.1	105.4
South Australia	94.3	105.4
Tasmania	115.0	105.4
Australian Capital Territory	84.7	105.4
Northern Territory	161.6	105.4
Australia	100.0	100.0

a Indicates the ability of a State to raise revenue relative to the Australian average.

b Indicates the efforts made by individual States to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997b, p. 156).

Exemptions

There were essentially no exemptions to *tobacco franchise fees*. However, some discounting may have occurred where fees were pre-paid. In addition, partial refunds were often granted on pre-paid *franchise fees* when the rate of taxation changed. For example, the New South Wales Government refunded \$631 000 in 1994–95 and \$22.7 million in 1995–96 to tobacco wholesalers adversely affected by the increase in the licence fees from 75 to 100 per cent on 29 May 1995 (effective from 28 June 1995) (NSW Office of State Revenue 1995, pp. 25 & 53).

Efficiency

In comparison with other taxes, State taxation of tobacco was characterised by:

- few exemptions or concessions; and
- high average effective tax rates of approximately 100 per cent (Table 9.20).

A broad tax base with few exemptions or concessions will, all other things being equal, reduce the potential for efficiency losses from taxation.

Ordinarily, the loss in allocative efficiency (that is, size of the deadweight loss) increases with the tax rate. This would suggest that the high level of tobacco taxation might lead to a relatively high loss in efficiency. However, the insensitivity of demand to changes in the price of tobacco products means that this may not be the case.

The most efficient way to raise revenue is by having higher taxes on goods where demand is less sensitive to changes in price. The uncompensated elasticities of demand for tobacco and the income elasticities (Table 9.22), coupled with a low budget share (in the order of 5 per cent), imply that the demand for tobacco is relatively insensitive to changes in price (with a compensated elasticity of demand of approximately -0.3 to -0.4). This suggests that tobacco should be taxed relatively more heavily than other goods.

The second important reason why high tobacco taxes may not entail a loss in efficiency is that smoking produces adverse external effects not reflected in the pre-tax price of tobacco (eg. medical costs, the effects of passive smoking and loss of amenity). Smokers would take into account the costs they may incur, but the costs associated with the external effects will be borne by the wider community. A tax on tobacco would, to some extent, discourage smoking and, therefore, reduce the external costs incurred by the wider community. The optimal Pigouvian tax on tobacco would, at the margin, equate the total cost incurred by society from smoking (private costs plus externalities) with the

private benefit. Thus, the tax should be directly correlated with the magnitude of the external costs of smoking.

Table 9.22: Uncompensated own-price and income elasticities of demand for tobacco, Australia

<i>Author</i>	<i>Own-price</i> ^a	<i>Income</i> ^b
Koutsoyannis (1963)	-0.36	ne
Clements, McLeod & Selvanathan (1985)	-0.2 to -0.3 ^c	ne
Johnson (1986)	1961–62: -0.10 1982–83: -0.22	+0.71
McLeod (1986)	-0.47 to -0.59 ^d	+0.55 to +0.85 ^d
Bewley (1991)	1984–85: -0.34 1988–89: -0.43 ^e	1984–85: +0.25 1988–89: +0.23 ^e
Alchin (1992)	-0.47	+0.10
Bewley (1993)	-0.345	ne

a The percentage change in the demand for tobacco caused by a one per cent change in the price of tobacco.

b The percentage change in the demand for tobacco caused by a one per cent change in income.

c Reasons for range not identified in source.

d Range attributable to different forms of the estimating equation.

e Range identified for social groups.

Source: IC (1994b, pp. O2 & O7).

In a recent Australian study, Albon (1998) assessed the efficiency of Australian taxes on tobacco — the combined effect of Commonwealth *excise duty* and State *franchise fees* — from an optimal tax perspective, taking into account the externalities involved. Much of the following discussion is based on his paper. His analysis assumed that supply was infinitely responsive to price, a not unrealistic assumption in the long run. This implies that the burden of the tax is born entirely by tobacco consumers.

Albon assessed that Commonwealth and State taxes on tobacco were equivalent to a 211 per cent tax on the value of tobacco products sold (Table 9.11). Based on a review of the recent Australian literature, Albon concluded that the uncompensated elasticity of demand for tobacco was about -0.4 (Table 9.11), and that this was a good approximation for the compensated elasticity. He then estimated the marginal excess burden of the taxes on tobacco to be 37 cents per dollar of revenue raised (Table 9.11). If anything, the general equilibrium

efficiency costs are likely to be higher than this partial equilibrium estimate because of the complementarity between tobacco and alcohol consumption.²³

This is broadly comparable with his estimates of the marginal excess burden associated with State and Commonwealth taxation of beer and petrol (13 to 52 cents and 45 to 48 cents, respectively), considerably lower than that associated with spirits (\$1.31), but higher than that associated with wine (10 to 22 cents). He concluded that taxes on tobacco were inefficiently high and could not be justified on the grounds of optimal taxation.

The primary externalities associated with smoking are the medical costs funded by taxpayers and the loss in productivity associated with smoking-related illnesses. In a study undertaken for the Commonwealth Department of Human Services and Health, English et al (1995) estimated that 18 920 Australians died in 1992 from illnesses attributable to cigarette smoking (Table 9.23). They found that cigarette smoking reduced the life expectancy of smokers by an average of 4.7 years. They estimated that 88 266 person years were lost as a result of premature death brought about by smoking. Cigarette smoking also resulted in substantial hospital costs, in terms of hospital admissions and bed days.

Table 9.23: Health effects of cigarette smoking, Australia, 1992^{ab}

<i>Indicator</i>	<i>Males</i>		<i>Females</i>		<i>Total</i>
	No.	Per cent ^c	No.	Per cent ^c	
Deaths	13 857	3.8	5 063	8.8	18 920
Person-years of life lost ^d	63 646	8.7	24 620	9.3	88 266
Hospital episodes	66 636	3.5	31 737	1.9	98 373
Bed-days	551 347	6.1	261 519	2.8	812 866

a Exclusive of passive smoking.

b For those aged 18 years of age or over.

c Per cent of all causes.

d Before age 70.

Source: English et al (1995).

Estimates of the associated health care costs of smoking range from \$500 million (Senate Community Affairs Reference Committee 1995, cited in Albon

²³ A tax levied on a good that is highly complementary to a heavily taxed good, as alcohol is to tobacco, will increase the efficiency loss relative to a partial equilibrium measure of the deadweight loss. Conversely, if the goods are substitutes, a tax will lead to a lower efficiency loss than that indicated by a partial equilibrium estimate.

1998) through \$610 million (Collins and Lapsley 1991), to \$833 million (Collins and Lapsley 1996).²⁴ However, not all of the medical costs incurred by smokers represent external costs, as smokers themselves contribute to the costs through their taxes and through their contributions to private health insurance.

Albon (1998) broke these external costs up into two groups — the cost of health care and ‘other’ externalities (such as passive smoking and odour). The ‘other’ externalities were sufficiently different from health costs for Albon to conclude that the appropriate way to deal with them was not through a blunt instrument such as tobacco taxation, but through direct government policy (specific zoning and regulatory measures). Other externalities associated with smoking, such as higher health insurance premiums resulting from risk pooling (community rating), would likewise be better dealt with by means other than tobacco taxation.

Albon (1998) noted that Commonwealth and State taxes on tobacco generated \$4.2 billion in tax revenue, easily covering the estimated health costs of \$500 million.²⁵ Taking the recovery of health costs into account, the marginal excess burden from tobacco taxes fell from 37 to 33 cents per dollar of revenue raised. Albon (1998, p. 11) noted that ‘this is still a very high marginal deadweight loss compared with that from most other commodities and that arising from income taxation’. He claimed that a (combined) tax rate of 130 per cent would bring the marginal deadweight losses in line with income tax and the tax on cars.

The estimates of the marginal excess burden may be sensitive to the health costs chosen. Albon’s marginal excess burden of tobacco taxation can be

²⁴ Collins and Lapsley’s 1991 study gives an estimated \$813 million in tangible costs in 1988, of which \$610 million is for health care, as well as \$6 028 million in intangible costs associated with mortality and morbidity. Collins and Lapsley’s 1996 study revises these figures on the basis of new data sources and minor methodological changes. The modified estimate for 1988 is \$4 929 million in tangible costs, of which \$484 million is for health care, as well as \$4 818 million in intangible costs. Collins and Lapsley (1996) also give 1992 estimates of the costs of tobacco abuse, being \$6 538 million in tangible costs, of which \$833 million is for health care, as well as \$6 199 million in intangible costs. Most of their estimated intangible costs, as well as their non-health tangible costs, are private costs, and so are ignored in this paper. Other intangible external costs, such as associated with passive smoking, were not quantified in their papers. The \$500 million estimate of the Senate Community Affairs Reference Committee (1995) falls within the range of health care estimates provided by Collins and Lapsley.

²⁵ Albon acknowledged that there was some debate about the size of the health costs associated with smoking. He concluded that there is rough consensus that the health costs were around \$500 million (Senate Community Affairs Reference Committee 1995, p. 12). Nevertheless, the tax revenue easily covers Collins and Lapsley’s higher estimates of the tangible health care costs.

recalculated using the higher estimate of \$813 million per year for tangible costs put forward by Collins and Lapsley (1991). With these higher costs, the marginal excess burden would fall to 32 cents per dollar of revenue raised. However, the marginal excess burden of tobacco taxation would still exceed that from most other taxes reported by Albon — income taxation (19 to 24 cents), taxes on motor vehicles (19 cents), wine (10 to 22 cents) and beer (13 to 52 cents). However, any externalities associated with these other activities should be included to ensure strict comparability.

In calculating the marginal excess burden of State tobacco taxation, given that the Commonwealth also taxes tobacco products, it is necessary to apportion the external costs generated by such products between the States and the Commonwealth (refer to Appendix B for details). Since one of the major external costs associated with tobacco products relates to health expenditure, this apportionment could be based on the share of each level of government in total Australian hospital expenditure. Such an approach would result in approximately 65 per cent of the external costs of tobacco products being allocated to the States, with the remaining 35 per cent going to the Commonwealth (Table 9.16). If this apportionment is applied to the estimate of the health costs employed by the Senate Community Affairs Reference Committee, \$325 million of the \$500 million total is attributable to the States.

The compensated own-price elasticity of demand for tobacco products is virtually identical to the uncompensated own-price elasticity. Australian estimates of the income elasticity of tobacco demand range from +0.1 to +0.85 (Table 9.22), with the more recent studies (Alchin 1992, Bewley 1991) yielding estimates at the lower end of this range (from +0.1 to +0.25). Placing greater emphasis on the more recent studies, this study uses an income elasticity of demand of +0.2. Using data from the Household Expenditure Survey (ABS 6535.0), the budget share for tobacco products is low — in the order of 1.27 per cent of average weekly household expenditure. The product of the budget share and the income elasticity is 0.0024, thereby implying that the compensated and uncompensated elasticities are identical to two decimal places.

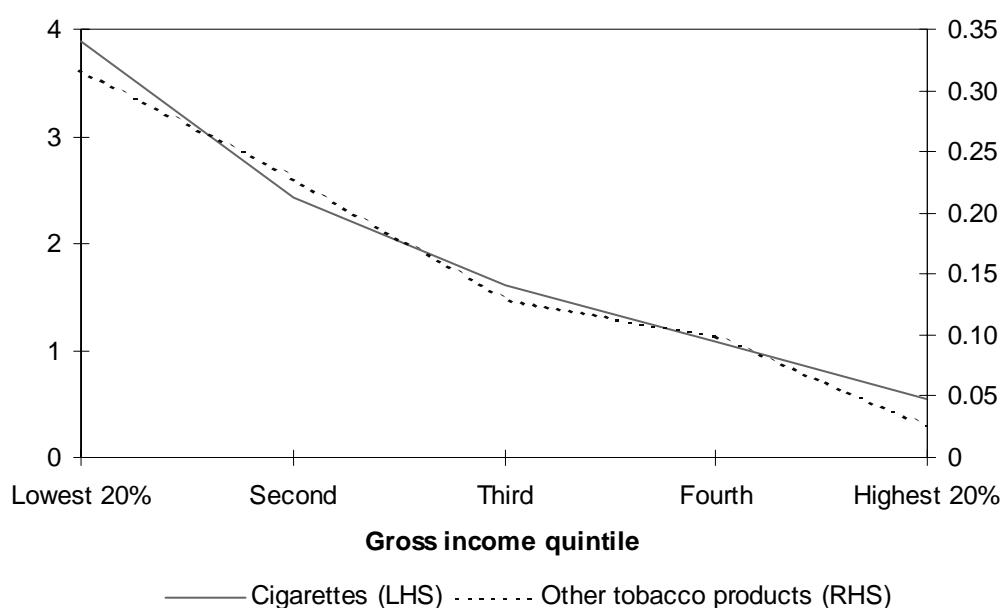
Using Albon's elasticities of supply and demand, and the estimates of external costs of tobacco use above, the MXSB of State taxes (only) on tobacco can be calculated, taking existing Commonwealth taxation of tobacco as given. The results are shown in Tables 4.3 and 4.4 of Chapter 4, and are similar to those found by Albon for State and Commonwealth taxation combined. The MXSB of tobacco taxation is 34 cents per dollar of revenue raised ignoring externalities, falling to 28 cents per dollar of revenue raised once externalities are taken into account. With Collins and Lapsley's (1996, p.33) estimate of the total tangible health care costs associated with tobacco abuse — \$833 million in

1992 — this MXSB would have been 26 cents per dollar of revenue raised. In either case, State *franchise fees* on tobacco would be among the more inefficient of the State taxes considered in this paper.

Equity

Household expenditure on tobacco declines as a share of gross household income — both for cigarettes and other tobacco products (Figure 9.10). While the precise impact depends on the tobacco content (as the Commonwealth component of the tax is based on tobacco content), *tobacco licence fees* appear to be regressive, impacting more heavily on low income households. Hopkins (1995) came to a similar conclusion for Australia using a very different methodology.

Figure 9.10: Household expenditure on tobacco, by quintile, Australia, 1993–94 (percentage of average weekly income)



Source: ABS 6535.0.

9.4 Liquor

How did liquor franchise fees operate?

Unlike the other *franchise fees*, *liquor licence fees* were primarily imposed on liquor retailers (Table 9.37 at the end of this chapter). The *licence fee* was based on a percentage of the value of purchases (ranging from 10 to 13 per cent)

in a specified earlier period (varying from the previous quarter to previous financial and calendar years). However, wholesalers who sold liquor to unlicensed individuals, such as the general public, were liable to a fee on these sales ranging from 10 to 14 per cent. Some States imposed minimum licensing fees (ranging from \$150 to \$200 for retailers and from \$150 to \$1 000 for wholesalers). All States, except Queensland, offered some form of concession relating to the sales of low alcohol liquor, ranging from an exemption to concessional licence fees. The definition of low alcohol beer and wine, however, varied between States (typically, 3.5 to 3.8 per cent for beer and 6.5 per cent for wine) and differed from that used by the Commonwealth in levying *excise duty* (1.15 per cent for alcoholic products).

The *franchise fee* was levied on the total value of purchases, which included not only the value of freight, packaging and handling, but also the amount of Commonwealth excise duty paid. Thus, the base for the State *franchise fees* included the Commonwealth *customs* and *excise duties*.

Liquor is also subject to substantial Commonwealth taxation, which is considerably more complicated than the former State *franchise fees* (Table 9.24). In essence, the Commonwealth levies three different taxes on alcoholic beverages — *excise duty*, *customs duty* and *sales tax*. *Excise duty* applies to domestically produced beer and spirits, while *customs duty* applies to those produced overseas. Both duties are levied on the volume of alcohol contained in the beverage (that is, its alcohol content). The *customs duty* applying to low alcohol beer and spirits also includes an additional levy of 5 per cent of the imported price. All alcoholic beverages (including those subject to *customs duty* and *excise duty*) are subject to *sales tax* levied on the value of sales (not the alcoholic content). Wine and cider are taxed at a rate of 26 per cent, while beer and spirits are taxed at a rate of 22 per cent. Special taxation arrangements exist for low alcohol beer and wine (less than or equal to 1.15 per cent alcohol by volume) and for brandy (wine-based spirits). The rates of *customs* and *excise duties* for beer and spirits are indexed biannually on 1 February and 1 August each year based on movements in the consumer price index. Commonwealth excise duties on liquor raised \$1 024 million in 1995–96 (Table 9.25).

Table 9.24: Commonwealth taxation of liquor, as at 1 July 1997^{ab}

<i>Commodity</i>	<i>Domestically produced</i>	<i>Imported</i>
<i>Beer:</i>		
Normal strength (over 1.15 per cent)	Excise duty: \$15.89 per litre of alcohol ^c , plus Sales tax: 22 per cent of value ^d	Customs duty: \$15.89 per litre of alcohol ^c , plus Sales tax: 22 per cent of value ^d
Low alcohol (under 1.15 per cent)	Sales tax: 22 per cent of value ^d	Customs duty: 5 per cent, plus Sales tax: 22 per cent of value ^d
<i>Potable spirits (distilled):</i>		
Brandy (wine-based)	Excise duty: \$31.59 per litre of alcohol, plus Sales tax: 22 per cent of value ^d	Customs duty: 5 per cent, plus \$31.59 per litre of alcohol, plus Sales tax: 22 per cent of value ^d
Other spirits	Excise duty: \$36.99 per litre of alcohol, plus Sales tax: 22 per cent of value ^d	Customs duty: 5 per cent, plus \$36.99 per litre of alcohol, plus Sales tax: 22 per cent of value ^d
<i>Wine, wine products, & other fermented alcohol:</i>		
Normal strength (over 1.15 per cent)	Sales tax: 26 per cent of value ^d	Customs duty: 5 per cent, plus Sales tax: 26 per cent of value ^{de}
Low alcohol (1.15 per cent & under)	Sales tax: 12 per cent of value ^d	Customs duty: 5 per cent, plus Sales tax: 12 per cent of value ^{de}

a *Customs duty* and *excise duty* effective from 1 February to 1 August 1997.

b *Sales tax* rates effective for 1996–97.

c Applies only to amount in excess of 1.15 per cent per litre of alcohol.

d The Commonwealth now levies an additional 15 percentage points surcharge to cover the revenue lost from *State franchise fees* being declared unconstitutional by the High Court.

e Applies to *customs duty* inclusive price.

Sources: ATO (personal communication), Commonwealth of Australia (1997, pp. 5-10 to 5-11) and *Customs Tariff Act 1995* (Chapter 32/5).

Table 9.25: Revenue from Commonwealth excise duty on liquor, Australia, 1995–96

<i>Beverage type</i>	<i>Revenue</i>	<i>Share</i>
	\$ million	Per cent
Beer	829	80.8
Potable spirits	197	19.2
Total excise duty on liquor	1 026	100.0

Source: Commonwealth of Australia (1996, p. 4-36).

The State taxes on liquor were primarily levied as a percentage of price, while the Commonwealth *customs* and *excise duties* were (and still are) levied on the volume of alcohol contained in the beverage (alcohol content).²⁶ This difference in the way the taxes operated complicates the analysis of these taxes, particularly from an efficiency perspective. The economic efficiency of State liquor *franchise fees* will depend on the cumulative effect of all pre-existing taxes, including those levied by the Commonwealth. (This is discussed in more detail in Chapter 3.) Except for wine and low alcohol beer, the cumulative effect will depend on both the price of the alcoholic beverage and its alcohol content. Thus, the amount of tax paid differs between alcoholic beverages that would otherwise retail at the same price, if their alcohol content varies. Only the Commonwealth *sales tax* is levied on an ad valorem basis in the same way as the former *franchise fees*.

Following the *Walter Hammond case*, the Commonwealth agreed to increase the *sales tax* on alcoholic beverages by 15 percentage points (Commonwealth Treasury 1997, p. 1). This additional revenue will be transferred to the States to cover the revenue forgone. The arrangements are the same as for petroleum products and tobacco.

Effective rates of taxation

The Grants Commission calculated that the average effective rate of tax for *liquor franchise fees* across Australia in 1995–96 was 11.6 per cent of the pre-tax price (Table 9.26). Northern Territorians spent considerably more per capita on liquor than did those in any other State (\$524 per person, compared with the national average of \$353 per person). The Northern Territory

²⁶ In some cases, *customs* duties are based on value. The *customs* duties applying to all wine and low alcohol beer are solely based on value, while the duty applying to spirits consists of a nominal ‘tariff-equivalent’ based on value.

Government collected proportionately even more in *liquor licence fee* revenue per capita (\$104 per person, compared with the national average of \$41 per person). Thus, the Northern Territory had a considerably higher average effective tax rate on liquor than did any other State (19.9 per cent). The other States assessed to be above the national average were the ACT (13.1 per cent), New South Wales (12.8 per cent) and Victoria (11.9 per cent), despite the latter spending less per capita on alcohol than any other State. Queensland had the lowest average effective tax rate (9.6 per cent). State *liquor franchise fees* ranged between 10 and 20 per cent of the average retail price in 1995–96, or 12 per cent across Australia.

Table 9.26: Average effective tax rates, State franchise fees on liquor, 1995–96^a

<i>State</i>	<i>Tax revenue per capita</i>	<i>Revenue base per capita</i>	<i>Average effective tax rate</i>
	\$ per person	\$ per person	Per cent
New South Wales	45.9	359.4	12.8
Victoria	35.8	300.8	11.9
Queensland	39.2	393.7	10.0
Western Australia	41.1	403.3	10.2
South Australia	31.7	312.1	10.2
Tasmania	37.0	349.1	10.6
Australian Capital Territory	45.7	349.1	13.1
Northern Territory	104.4	524.1	19.9
Australia	40.9	352.6	11.6

a Average effective tax rate expressed as a proportion of the post-tax price (that is, the retail price).

Source: Grants Commission (1997b, p. 162).

Total effective tax rates differ considerably between alcoholic beverages, primarily as a consequence of the way the various Commonwealth taxes operate (Table 9.24). This is nevertheless important in calculating the efficiency losses attributable to State taxation.

The average effective tax rates also varied among alcoholic beverages. The Commonwealth Treasury estimated that the share of the pre-tax price accounted for by State *liquor licence fees* as at 1 July 1995 varied from between 16 per cent for wine to 40 per cent for brandy, assuming that the average *licence fee* was 13 per cent and that low alcohol was exempt (Table 9.27). If anything, the Treasury estimates probably marginally overestimated the average State *licence*

fees because of two competing effects. Only New South Wales and the ACT levied *licence fees* at 13 per cent in 1995, while the other States levied them at a lower rate (NSW Treasury 1995, p. 18). Conversely, not all States exempted the consumption of low alcohol beverages. Thus, the average State tax rate on low alcohol beer would be higher than estimated by the Commonwealth Treasury, but, in all likelihood, lower than that for wine.

Table 9.27: Average effective tax rates, Commonwealth and State taxes on liquor, 1 July 1995 (percentage of the pre-tax price)

<i>Beverage type</i>	<i>Commonwealth taxes^a</i>	<i>State franchise fees^b</i>	<i>Commonwealth and State taxes</i>
Wine (cask and bottled)	26	16	42
Low alcohol beer	43	0	43
Regular beer	70	22	92
Whisky	187	37	224
Brandy	215	40	255

a Cumulative effect of *sales tax, excise duty* and *customs duty*.

b Estimated assuming State *licence fees* were 13 per cent with low alcohol beverages being exempt.

Source: Commonwealth Treasury, cited in Scales, Croser and Freebairn (1995, p. 255).

When calculated as a percentage of the pre-tax price, Commonwealth taxes on alcoholic beverages are substantial — ranging from 26 per cent for wine to 215 per cent for brandy (Table 9.27). Overall, this would make wine the least taxed alcoholic beverage in 1995 (42 per cent), even lower than low alcohol beer (43 per cent). Spirits were the most heavily taxed alcoholic beverage, with tax rates well over 200 per cent of the pre-tax price. The average for spirits as a whole is 234 per cent (Albon 1997a, p. 275).

One factor contributing to the high tax rates is the cascading of taxes. Commonwealth *sales tax*, for example, is levied on the post-*customs* or *excise duty* price. State *franchise fees* were then levied on the value of purchases, including Commonwealth taxes. Thus, *franchise fees* were levied on a post-*sales tax* price, which in turn was scaled up from the post-*customs* or *excise duty* price.

Revenue raising capacity and effort

The ability to raise revenue through *liquor franchise fees* depends on liquor consumption (Table 9.26). The Northern Territory easily had the highest level of expenditure on liquor in Australia (\$524 per person, compared with the Australian average of \$353 per person). Western Australia (\$403 per person)

and Queensland (\$394 per person) also had high per capita expenditures on liquor. On the basis of this, the Grants Commission assessed that these States were better placed to raise revenue through *liquor franchise fees* (Table 9.28). Conversely, Victoria and South Australia were less well placed to raise revenue through liquor taxes.

Table 9.28: Indices of revenue raising capacity and effort, State franchise fees on liquor, 1995–96

<i>State</i>	<i>Capacity</i> ^a	<i>Effort</i> ^b
New South Wales	101.9	110.1
Victoria	85.3	102.7
Queensland	111.7	85.9
Western Australia	114.4	87.9
South Australia	88.5	87.7
Tasmania	99.0	91.4
Australian Capital Territory	99.0	112.9
Northern Territory	148.6	171.8
Australia	100.0	100.0

a Indicates the ability of a State to raise revenue relative to the Australian average.

b Indicates the efforts made by individual States to raise revenue relative to the Australian average effort.

Source: Grants Commission (1997b, p. 163).

In terms of revenue raising effort, the Grants Commission assessed that the Northern Territory made a considerably higher effort to raise revenue from liquor taxes than did any other State in 1995–96 (Table 9.28). The Grants Commission assessed that Queensland, Western Australia, South Australia and Tasmania made less revenue effort than the other States.

Exemptions

All States (except Queensland) operated special concessions arrangements for sales of low alcohol liquor. The concession either took the form of an exemption (New South Wales, Victoria, South Australia, and the ACT) or a lower licence fee (Tasmania, Western Australia, and the Northern Territory). In Western Australia, the concessional arrangements for low alcohol liquor were valued at \$6 million in 1996–97, or 7.8 per cent of the revenue collected (Government of Western Australia 1997a, p. 11; 1997b, p. 124).

Efficiency

When deciding to consume alcohol, consumers may take into account many of the possible effects that they themselves will bear — enjoyment, reduced stress and possible health benefits, as well as hangovers, vehicle damage and costs associated with the loss of driving licence.

Albon (1997a) estimated the marginal excess burden of Commonwealth and State taxes on wine, beer and spirits in Australia, assuming that there were no external effects of any kind. Using the ad valorem equivalent tax rates and uncompensated elasticities set out in Table 9.11, Albon concluded that the marginal deadweight loss from taxing wine ranged from 10 to 22 cents per dollar of revenue raised. This was comparable to the lower end of the estimates for beer — 13 to 52 cents per dollar of revenue raised — and considerably lower than for spirits — \$1.31 per dollar of revenue raised. Albon's analysis ignored the possibility of significant cross-price effects between different types of alcoholic beverage, a factor which could affect the calculation of marginal deadweight loss.

Owing to its relatively favourable tax treatment, the deadweight loss associated with wine consumption was calculated by Albon to be lower than for other commodities subject to State *franchise fees*. The efficiency loss associated beer taxation was calculated to be on par with that from taxing tobacco and petrol (both leaded and unleaded, and ignoring externalities on petroleum use). The efficiency loss associated with taxing spirits was considerably higher than for other State *franchise fees*, owing to its particularly high tax rate and relatively elastic demand. This pattern would argue for lowering the State tax on spirits and possibly raising the State tax on wine. To the extent that wine was a substitute for beer and spirits, this would provide an additional reason for raising the tax on wine.

In some cases, the consumption of alcohol will also affect the wider community, through effects on families, on employers through lost productivity, increased medical and law enforcement costs, and induced traffic accidents. To the extent that consumers do not take these wider effects into account when deciding how much alcohol to consume, taxing alcohol consumption will improve economic efficiency, so long as the tax reflected the external effects associated with alcohol consumption.

The externalities associated with alcohol are complex and not particularly well understood, either from a medical or economic perspective. In reviewing the literature, Scales, Croser and Freebairn (1995) found that the consumption of alcohol can, under certain circumstances, produce both positive and negative external effects. The nature and extent of any externalities depends on the

amount, frequency and the type of alcohol consumed and the demographic profile (eg. gender and race) of the drinker. The primary beneficial effect arising from moderate consumption of alcohol (up to 4 standard drinks per day for men and 2 for women) is believed to be a lower risk of cardiovascular disease, the biggest cause of death in Australia. Alcohol may also reduce stress, increase feelings of affection and happiness, improve certain types of cognitive performance, and help in the treatment of geropsychiatric problems. Against this, alcohol consumption may produce substantial external costs, the most important of which are medical costs, lost productivity, premature loss of life, and vehicle damage associated with induced road accidents.

A number of studies have attempted to measure the effects of alcohol consumption in Australia, both in terms of the health effects and economic costs. While many of their assumptions can be debated, they nevertheless provide an indication of the costs associated with excessive alcohol consumption. Economic studies attempt to measure the net costs (costs in excess of the benefits), but do not take into account intangible costs (eg. grief).

In a study undertaken for the Commonwealth Department of Human Services and Health, English et al (1995) estimated that 3 660 Australians died in 1992 from alcohol-related illnesses (Table 9.29). They found that excessive alcohol consumption (over four standard drinks per day) reduced the life expectancy by 15.2 years on average. They estimated that 55 450 person years were lost as a result of premature death. Harmful alcohol consumption also resulted in substantial hospital costs, in terms of hospital admissions and bed days.

Scales, Croser and Freebairn (1995, pp. 239–240) reported an earlier study by Collins and Lapsley (1991) that estimated the total economic costs of alcohol abuse in Australia in 1988. By arbitrarily assuming that 30 per cent of alcohol consumption was abuse, Collins and Lapsley found the total economic cost to be \$6 027.4 million — equivalent to \$40 per litre of (pure) alcohol consumed.

Scales, Croser and Freebairn (1995, p. 241) reported that the Tasman Institute (1991) claimed that the Collins and Lapsley study ‘did not provide an accurate guide to the external costs associated with alcohol consumption because many of the costs included in the study are internal costs stemming from decisions made by individual consumers’. Using Collins and Lapsley’s data, the Tasman Institute estimated the external costs of alcohol abuse in 1988 to be around \$900 million, or an average cost of about \$6 per litre of alcohol.

Table 9.29: Health effects of hazardous and harmful alcohol consumption, Australia, 1992^{ab}

<i>Indicator</i>	<i>Males</i>		<i>Females</i>		<i>Total</i>
	No.	Per cent ^c	No.	Per cent ^c	No.
Deaths	2 521	3.8	1 139	2	3 660
Person-years of life lost ^d	43 183	8.7	12 267	4.6	55 450
Hospital episodes	45 600	3.5	25 993	1.6	71 593
Bed-days	443 834	6.1	287 335	3.1	731 169

a Defined to be in excess of the NHMRC guidelines of more than 4 standard drinks per day for men and 2 standard drinks per day for women.

b For those aged 18 years of age or over.

c Per cent of all causes.

d Before age 70.

Source: English et al (1995).

Additional research is needed on how the external costs vary between alcoholic beverages. Nevertheless, the available evidence suggests that the relative rate of taxation across alcoholic beverages cannot be justified on the basis of the relative externalities associated with their consumption (see Scales, Croser and Freebairn 1995, pp. 225–248 & 271–272). The external effects associated with low alcohol beer, for example, are unlikely to be higher than those for full strength wine, despite low alcohol beer being taxed more heavily by the Commonwealth than wine. Research into the causes of fatal and serious traffic accidents suggests that the externalities associated with beer consumption may be higher than those for other alcoholic beverages, including spirits (Federal Office of Road Safety, cited in Scales, Croser and Freebairn 1995).

As a first order approximation, the external costs associated with alcoholic beverages have been divided among the various beverages according to their shares of total alcohol consumption (litres of alcohol). The only exception to this approach is low alcohol beer, to which no external costs have been attributed. The resulting shares are given in Table 9.30.

Table 9.30: Total apparent consumption of alcohol, Australia, 1995–96^a

<i>Beverage type</i>	<i>Apparent consumption^a</i>	<i>Share of externality allocated</i>
	million litres of alcohol	Per cent
Low alcohol beer	13	0 ^b
Normal strength beer	63	50
Wine	38	30
Spirits	25	20
Total	139	100

a Note that the figures reflect alcohol content, not fluid content.

b Low alcohol beer was arbitrarily allocated a zero share of the externality.

Source: ABS 4315.0.

The external costs are further divided between the State and Commonwealth tiers of government on the basis of hospital expenditure shares (Table 9.16). The resulting disaggregation of the external costs attributable to alcohol by State and beverage type are depicted in Table 9.31.²⁷

In estimating the MXSB of State taxation on liquor, taking account of possible external costs, and taking Commonwealth taxation of liquor as given, the demand elasticities that have been used are similar to Albon's (1997a). Table 9.32 and Table 9.33 show a range of Australian estimates of uncompensated own-price elasticities of demand and income elasticities for alcoholic beverages.

²⁷ Quantifying the externalities in ad valorem terms also requires estimates of the pre-tax expenditure bases. These were derived from the aggregate household expenditure on alcoholic drinks (\$13 170 million in 1995–96; ABS 5209.0), grossed up using the AETRs estimated by the Commonwealth Treasury (cited in Scales, Croser and Freebairn 1995, p. 255) and the respective State and Commonwealth taxes applying to each beverage. The wholesales sales tax base was approximated by netting off State *franchise fees* and estimated margins of \$5 933 million (ABS 5209.0) from aggregate household expenditure. The expenditure base for spirits was calculated as the residual after the AETRs for beer and wine were reconciled exactly. The AETR implied for spirits is 211 per cent, somewhat lower than the weighted average of 224 per cent cited by the Commonwealth Treasury for brandy and spirits. Beer was split up into normal strength and low alcohol on the basis of their apparent consumption (ABS4315.0).

Table 9.31: Allocation of externalities associated with alcohol consumption between the Commonwealth and the States, by type of alcoholic beverage (\$ million)

<i>Beverage type</i>	<i>State</i>	<i>Commonwealth</i>	<i>Total externality</i>
Low strength beer	0	0	0
Normal strength beer	293	158	450
Wine	176	95	271
Spirits	116	63	179
Total	585	315	900

Source: Own calculations.

However, tastes have changed over time, particularly for wine, so that the older studies are likely to be less reliable. Using preferred estimates from the more recent studies (uncompensated elasticities of -0.4, -0.5 and -0.9 for beer, wine and spirits, respectively, as well as an income elasticity of +0.9 and a budget share of 3.3 per cent for each beverage), gives estimates of compensated elasticities of -0.39, -0.49 and -0.89 for beer, wine and spirits.

These elasticities are used to calculate the MXSB for State taxes on liquor, taking Commonwealth taxation as given. The results are shown in Tables 4.3 and 4.4 of Chapter 4. Ignoring external effects, the MXSB range from 15 cents per dollar of revenue for wine and low alcohol beer, to 18 cents for normal strength beer, to a much higher 71 cents for spirits. Taking account of externalities does not change the estimates by much, with wine falling to 12 cents, normal strength beer to 14 cents and spirits to 58 cents per dollar of revenue raised (no externalities were attributed to low alcohol beer).

The estimates suggest that lowering the taxes on spirits could improve economic efficiency, but give no clear implications for State taxes on wine or beer.

One qualification is that the MXSB estimates ignore cross-price effects across alcoholic beverages. Table 9.33 suggests that there is substitution among beverages in response to relative prices, although it does not show the significance of these effects and it does not give the compensated cross-price effects required for the current analysis. To the extent that wine and beer are substitutes for highly taxed spirits, this provides an additional case for raising the taxes on wine and beer.

Table 9.32: Uncompensated own-price and income elasticities of demand for liquor, Australia

<i>Author (Year of study)</i>	<i>Time period</i>	<i>Own-price</i>	<i>Income</i>
<i>Wine:</i>			
Miller & Roberts (1972)	1970–71	fortified: -0.96 table wine: -1.80	ne
George (1974)	1955–56 to 1968–69	-1.48	+1.31
Labys (1976)	1954–71	-1.0	ne
Murphy (1981)	1973 to 1981	-0.27	+3.75
Bewley (1982)	1975–76	ne	+1.90
Tsolakis, Riethmuller & Watts (1983)	1955–56 to 1978–79	short run: -0.43 long run: -1.35	short run: +0.88 long run: +2.81
Abdulla & Duffus (1988)	1955–56 to 1985–86	short run: -0.198 long run: -0.784	short run: +0.54 long run: +2.13
Clements & Selvanathan (1991)	1955–56 to 1985–86	-0.37	+0.61
Selvanathan (1991)	1955–56 to 1985–86	ne	+0.70
CIE (1995)	1990(1) to 1994(2)	ultra premium: -0.43 premium: -0.47 non-premium: -0.71	ne
<i>Beer:</i>			
Murphy (1981)	1973 to 1981	-0.36	+0.75
Clements & Johnson (1983)	1955–56 to 1976–77	-0.36	+0.80
Selvanathan (1991)	1955–56 to 1985–86	ne	+1.90
CIE (1995)	1990(1) to 1994(2)	-0.42	ne
<i>Spirits:</i>			
Murphy (1981)	1973 to 1981	-1.37	+0.98
Bewley (1982)	1975–76	ne	+1.52
Clements & Johnson (1983)	1955–56 to 1976–77	-1.29	+0.80
Economic Budget Review Committee (1985)	1977 to 1984	-0.74	ne
Selvanathan (1991)	1955–56 to 1985–86	ne	+1.90
CIE (1995)	1990(1) to 1994(2)	-1.60	ne

Sources: Ashton & St John (1985, p. 64), CIE (1995, pp. 3 & 24) and Goldschmidt (1990, p. 13).

Table 9.33: Uncompensated own- and cross-price elasticities of demand for liquor, Australia

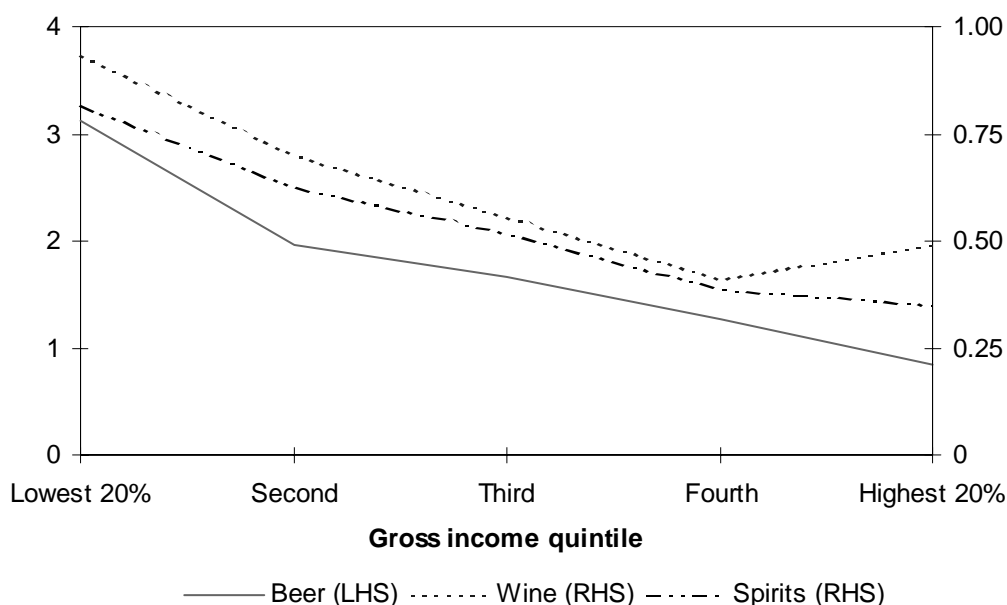
With respect to the price of:	Demand for		
	Premium wine	Beer	Spirits
Premium wine	-0.47	0.00	0.07
Beer	0.04	-0.42	0.02
Spirits	0.13	0.01	-1.60

Source: CIE (1995, p. 24).

Equity

Household expenditure on alcohol generally declines as a share of gross household income for all forms of alcohol consumed — beer, wine and spirits (Figure 9.11). However, the share of income spent on wine rises slightly for the most affluent households (the 20 per cent with the highest income). While the precise impact will also depend on household choices among the different types of alcohol, *liquor franchise fees* appear to be regressive, impacting more heavily on low income households.

Figure 9.11: Household expenditure on alcohol, by quintile, Australia, 1993–94 (percentage of average weekly income)



Source: ABS 6535.0.

Table 9.34: Revenue from State franchise fees, 1995–96 (\$ million)^a

<i>Franchise fee on:</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>	<i>Australia</i>
Tobacco	871	591	501	282	212	83	39	43	2 621
Petroleum products	539	505	–	221	155	48	27	34	1 531
Liquor	282	162	131	72	46	18	14	10	735
Electricity ^a	–	224	–	–	45	15	–	–	284
Gas suppliers	8	–	–	–	8	–	1	–	17
Alcohol levy ^c	–	–	–	–	–	–	–	9	9
Other ^d	37	5	–	–	4	–	–	6	52
Total franchise fees	1 737	1 497	632	575	470	164	81	102	5 249
Total tax revenue ^e	12 689	9 630	4 939	3 079	2 470	760	519	302	34 389
Share of total	14%	15%	13%	19%	19%	22%	16%	34%	15%

a Also includes supplementary levies on licences (eg. *alcohol levy*) and *licence fees* relating to the distribution of electricity and other activities.

b Includes the South Australian *electricity sales levy*.

c Northern Territory levy on liquor licences paid into a trust account for alcohol rehabilitation (beer 20 cents per litre, wine 48 cents per litre, spirits \$1.60 per litre, wine cask levy 35 cents per litre, low alcohol exempt) (NSW Treasury 1996, p. 22).

d Other taxes levied on the use of goods or in respect of permission to use goods or perform activities (eg. radio and television transmission licences) (ABS 5514, p. 138).

e Defined as State, Territory and local government *Total taxes, fees and fines* less *Total fees and fines*.

Sources: ABS 5506.0, Northern Territory of Australia (1996, p. 6), Government of South Australia 1996, p. 5.9) and State of Victoria (1996, p. 318).

Table 9.35: Summary of State franchise fee arrangements for petroleum products, as at 30 July 1997

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i> ^a	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
Calculation method	dec. value ^b	dec. value ^b	–	cpl	dec. value ^b	dec. value ^b	cpl	cpl
<i>Retailers:</i> ^c								
Fixed fee	\$10 initial fee	\$50 pa or \$10 pm	–	nil	\$131 pa	\$50 pa	\$50 pa	\$10 pm
Variable fee	nil	nil	–	nil	nil	nil	nil	7 cpl
<i>Wholesalers:</i>								
Fixed fee	\$10 pm	\$50 pm	–	\$50 pm	\$52 pm	\$50 pm	\$10 pm	\$10 pm
Variable fee:								
Super	18.78%	12.1%	–	9.67 cpl	15.84%	12.68%	7.88 cpl	nil
Unleaded	18.78%	12.1%	–	9.67 cpl	15.58%	12.68%	7.88 cpl	nil
Diesel	31.1%	15.5%	–	7.45 cpl	17.78%	12.68%	7.93 cpl	nil
Declared values (cents per litre):								
Super	42.00	76.71	–	na	62.68	48.48	na	na
Unleaded	42.00	76.71	–	na	62.68	48.48	na	na
Diesel	25.50	73.49	–	na	62.68	48.22	na	na
Monthly fees on	sales	sales	–	sales	sales	sales	sales	purchases
Reference period	2 months	2 months	–	2 months	2 months	2 months	2 months	2 months

a The tax rate varied by geographic region. The numbers reported in the table relate to zone 1 (Adelaide within 50 kilometres from the General Post Office).

b Declared value method: the amount of tax payable (in cents per litre) is calculated by applying the percentage tax rate to a value determined by the government.

c Retailers purchasing petroleum products from licensed sources.

Source: NSW Treasury (1996, p. 20).

Table 9.36: Summary of State franchise fee arrangements for tobacco, as at 30 July 1997

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT</i>
<i>Retailers:</i> ^a								
Fixed fee	\$10 initial fee	\$50 pa or \$10 pm	–	\$20 pm	\$10 pa	\$12 pa	\$100 pa	\$10 pm
Variable fee	nil	nil	–	nil	nil	nil	nil	100%
<i>Wholesalers:</i>								
Fixed fee	\$10 pm	\$50 pm	nil	\$20 pm	\$2 pm	\$12 pm	\$10 pm	\$10 pm
Variable fee	100%	100%	100%	100%	100%	100%	100%	nil
Monthly fees on:	sales ^b	intrastate sales ^b	wholesale sales	sales	intrastate sales	sales	sales	sales
Reference period	2 months	2 months	2 months	2 months	2 months	2 months	2 months	2 months

a Retailers purchasing tobacco from licensed sources. For retailers purchasing tobacco from unlicensed sources, the licensing arrangements are similar to those applying to wholesalers, except for the fixed fees in New South Wales Victoria, South Australia, Tasmania and the ACT, which are the same as retailers who purchase from licensed sources. For South Australian retailers purchasing from unlicensed sources the variable fee is 105 per cent.

b Except to other licensees.

Source: NSW Treasury (1996, p. 21).

Table 9.37: Summary of State franchise fee arrangements for liquor, as at 30 July 1997

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas.</i>	<i>ACT</i>	<i>NT^{ab}</i>
<i>Retailers:</i>								
Fixed fee	nil	nil	nil	nil	nil	nil	nil	nil
Variable fee	13%	11%	10%	11%	11%	11%	13%	11%
Levied on	Purchases	Purchases	Purchases	Purchases	Purchases	Purchases	Purchases	Stock
Minimum fee	nil	nil	nil	nil	\$178	\$200	\$150 ^c	nil
<i>Wholesalers:</i>								
Fixed fee	nil	nil	\$600	nil	nil	nil	\$125	\$20
Variable fee (unlicensed person)	13%	11%	14% ^c	11%	11%	11%	13%	nil
Levied on	sales	sales	sales	sales	sales	80% of sales	sales	na
Minimum fee	\$1 000	\$150	\$600	\$265	\$178	\$200	\$125	\$20
<i>Low alcohol drinks:</i>								
Concession	Exempt	Exempt	None	7%	0%	5%	Exempt	7% reduction
Definition of low alcohol:								
beer	3.5%	3.8%	na	3.5%	3.8%	3.5%	3.5%	3%
wine	6.5%	6.5%	na	6.5%	6.5%	6.5%	6.5%	3%

a Take-away trading/consumption on premises.

b Licence levy paid into trust account for alcohol rehabilitation: normal strength beer 20 cpl, wine 48 cpl, spirits \$1.60 per litre, and cask wine 35 cpl.

c General licence holders (hotels).

Source: NSW Treasury (1996, pp. 21–22).

A TAX ASSIGNMENT IN A FEDERATION

A.1 Introduction

Australia is a federation with three tiers of government — Commonwealth, State and local. While this paper focuses only on the State and local tiers of government, the interdependencies between the taxation arrangements of different tiers of government warrant a brief discussion. The key question is which taxes should be assigned to State and local governments in Australia. Three distinct approaches have been identified in the literature — the traditional (allocative efficiency) approach, the tax effectiveness approach and the public choice approach (Grewal 1985). As Petchey (1997, p. 2) notes, however, ‘no theory of “optimal” tax assignment in federations has yet emerged from the fiscal federalism and tax assignment literatures’.

Factors that are important in determining the appropriate allocation of taxes among tiers are the relative merits of competition between the States, the intranational mobility of various tax bases and the principle of subsidiarity. In Australia, the allocation of taxes to different tiers of government is also constrained by constitutional restrictions.

A.2 Models of tax assignment

The traditional approach

The traditional approach to tax assignment focuses on the impact on allocative efficiency and equity from assigning a particular tax to a particular tier of government. Musgrave (1983) identifies six assignment rules associated with this approach.

According to the first rule, the interjurisdictional mobility of the base for a tax in question is the key determinant of its tier assignment. If a tax base is highly mobile intranationally (that is, between States), then if that tax is levied at different rates in different States, there will be an incentive for the base in high tax rate States to relocate to low tax rate States. Competition between the States for that base will tend to result in a combination of very low tax rates and exemptions from or concessions to the tax. This may seem to be a good outcome, as mobile taxes have very elastic own-price elasticities of demand or

supply, so that the optimal tax rate is low. However, it ignores the possibility that what is optimal from an individual State's point of view may not be optimal for Australia as a whole. If a tax base is more mobile intranationally than it is internationally, then the optimal tax rate for that base nationally may be higher than interstate competition will allow. In this case, the tax should be levied by the central government.

The second and third rules relate to the use of progressive taxation. According to the second rule, progressive personal taxes should be levied by the tier of government which can most effectively administer a global base. Thus, if the focus was on income tax and a reasonable proportion of individuals earned income from more than one State, then it may be more appropriate for a central government to levy income tax. The basic principle is that if the tax base is global, then the difficulties associated with taxing it are likely to be minimised by a higher tier of government.

According to rule three, progressive taxes which are designed to achieve redistributive goals should be allocated to the highest tier of government — in Australia's case, the Commonwealth Government. If the States were unable to cooperate on the choice of base and tax rates for redistributive taxes, there would be a tendency for high income individuals to flee to low tax States and for low income individuals to flee to States with high transfer payments, thus undermining the basis for redistribution. This is an example of an adverse selection problem, discussed in more detail below.

The fourth assignment rule relates to macroeconomic policy. Taxes used by lower tiers of government should be relatively stable along the business cycle, while taxes that are suitable for stabilisation policy should be allocated to the highest tier of government. The rationale for this is explained by Rosen (1992), who points out that while there is some disagreement as to whether a central government can effectively pursue stabilisation policies, it is almost universally accepted that State and local governments cannot successfully implement such policies.¹

The fifth assignment rule given by Musgrave is that, for tax bases which are unevenly distributed among sub-jurisdictions, taxes should be levied centrally. This potentially conflicts with the first assignment rule, as Musgrave himself recognises. Consider mineral deposits, for example, which are both immobile between States and unequally distributed among States. The first rule would

¹ The raises the question of the relationship between size — whether measured in terms of geographic area, population, natural resources, or GDP — and the success or otherwise of stabilisation policy. Some States within a federation may be larger than other entire countries.

suggest that they be taxed by State or local governments, while the fifth rule would suggest that the Commonwealth Government should be the taxing party. The justification for rule five is distributional in nature. The concern with State taxation of unevenly distributed immobile resources, such as mineral deposits, is that factors of production will move to areas with high quantities of these resources in order to share in the extra tax rents (Mieszkowski 1983).

The sixth and final rule for tax assignment that Musgrave provides is that benefit taxes and user charges may be levied by all tiers of government. If any level of government provides a public good, then it may recover the cost of provision from those people that benefit from that good.

The application of these rules leads Musgrave to recommend the allocation of taxing powers among the various tiers of government in Australia outlined in Table A.1.

Table A.1: Musgrave's allocation of taxation powers

<i>Tier of government</i>	<i>Taxation powers</i>
Federal	Integrated income tax, expenditure tax, natural resource tax, and user charges.
State	State resident income tax, income tax on non-residents' income earned within the State, consumption tax on expenditure within the State, natural resource tax, and user charges.
Local	Property tax, payroll tax, and user charges.

Source: Musgrave (1983).

Examples of the importance of interjurisdictional mobility of the tax base (Musgrave's first rule) are evident in his allocation of taxes. Consumption taxes are inappropriate at the local tier of government because of the mobility of the tax base. For instance, if consumption taxes apply only to products sold in a small area of a large city, shoppers will make their purchases at another mall in a different part of the city. The mobility of this tax base between States, however, is much lower. Unless you live in a border town, it is unlikely to be cost effective to undertake all of your shopping in another State. Hence, a consumption tax on expenditure within the State may be appropriate for the State tier of government, while an overall consumption or expenditure tax would be most suitable for the Federal tier of government. Similarly, taxes on land, natural resources and, to a lesser degree, real estate are suitable for the State and local tiers of government, as the bases are relatively immobile between jurisdictions.

To the extent that individuals earn income in more than one sub-jurisdiction, an income tax is better levied by the higher tiers of government. State governments could levy an income tax on income earned within the State by both their own residents and non-residents, but there may be difficulties in levying taxes on income generated in another State.

According to Musgrave, an integrated income tax, especially if it is progressive in order to achieve redistributive objectives, needs to be levied by the Commonwealth Government. If a tax is to achieve an income redistribution goal, it needs to be levied on an individual's entire income, not just their income from a particular sub-jurisdiction. This is most easily achieved by allocating the power to levy an integrated income tax to the Commonwealth Government, as any international jurisdiction problems will apply to all levels of government, but intrastate and interstate jurisdiction problems will be avoided by the Commonwealth Government.

Of course, it is possible that the lower tiers of government could ask the Commonwealth Government to apply a surcharge on their behalf when administering the income tax. This surcharge could apply either to all income earners in the country, or only to those resident in the locality which requests the surcharge. The revenue sharing arrangements implicit in the Commonwealth grants to the States could be thought of as an example of the former. In Australia, constitutional restrictions would prevent the Commonwealth Government from applying different tax rates to different States, so that if a tax surcharge was levied by the Commonwealth on behalf of the States, it would need to be uniform across the States. While a form of differential taxation may be achieved through the allocation of such funds to the States in the Grants Commission process, this would clearly require cross subsidies between the States. The States may, however, be able to levy a surcharge upon their own residents and contract a Commonwealth Government agency, such as the Australian Tax Office, to collect the revenue. Constitutional restrictions are discussed further below.

The Federal tier of government is assessed to be the most appropriate location for a broad income tax since it can impose an integrated income tax on all citizens irrespective of location. This avoids the adverse selection problem associated with the lower tiers of government attempting to achieve redistributive objectives. The adverse selection problem potentially inhibits redistributive policies by inducing a vicious cycle of either rising taxes in high service areas, which in turn drive out the higher income residents, or lower service levels, since high levels attract lower income residents. This cycle may eventually result in low service levels in most jurisdictions. The extent of tax-transfer schemes may therefore be limited by this adverse selection problem.

Taxes are only one factor in the location decision, however, so it is more likely that income taxes levied at, say, the State tier of government would restrict the number of different tax-service combinations that are available, rather than resulting in complete uniformity.

Charges for benefits received, along the lines of user pays, are most appropriately levied by the tier of government which provides the benefits. Thus, this form of revenue may be levied by all tiers of government, as long as it is possible to identify the recipients of the benefits. Musgrave points out that, as a practical matter, such attribution is more likely to be feasible at the lower tiers of government. The choice of tax instrument to approximate user charges, where the latter are not appropriate, also needs careful consideration. Musgrave does not believe that it is appropriate to use property taxes as a user charge to fund school outlays, for example, whereas special assessments to finance the construction of a sidewalk are appropriate, as are carefully designed licence fees or gasoline taxes for approximating highway user charges.

Musgrave's allocation of payroll tax to the local tier of government seems incongruous, given the justification for allocating income taxes and consumption taxes to the State and Federal tiers of government, at least with respect to federations like Australia. Musgrave justifies it on the grounds that taxation of wage income tends to be less susceptible to base flight than the taxation of capital income. This appears to be inconsistent with the argument for allocating location-specific consumption taxes to the State tier of government, rather than the local tier. While in the short run it may be easier to shift consumption between sub-jurisdictions than it is to shift labour, in the long run both are likely to be mobile within the federation.

In addition to advocating the assignment of natural resource taxes to the State tier of government, Musgrave recommends that the Federal tier have limited access to it as well. This access would apply only to the portion of a given State's natural resource base that is deemed to be in excess of some average, assigning the average natural resource base to the State tier of government for taxation purposes. The justification is that a large natural resource base may permit a State to offer a high level of services at low tax rates and thereby attract too many mobile resources.

The tax effectiveness approach

The tax effectiveness approach to the assignment of taxing powers in a federation says that taxes should be allocated to the tier of government that is able to maximise their effectiveness, that is, to ensure that the equity and other objectives of the tax are achieved to the greatest extent possible. The premise

underlying this approach is that avoidance and evasion of taxes is so widespread that they threaten the ability of the tax system to achieve its objectives (Matthews 1983, Grewal 1985). Grewal notes that, despite the apparent differences between this approach to tax assignment and the traditional approach, both approaches are motivated by a desire for federation-wide efficiency. The main differences between the two approaches involve a greater emphasis on equity issues in the allocation stage and a greater degree of centralisation of taxing powers in terms of outcomes under the tax effectiveness approach than would be the case under the traditional approach. The tax effectiveness approach leads Matthews to recommend the allocation of taxing powers in Australia that is provided in Table A.2.

Table A.2: Matthews' allocation of taxation powers

<i>Tier of government</i>	<i>Taxation powers</i>
Federal	Exclusive assignment of progressive annual capital taxes and death duties, customs duties and social security contributions, primary responsibility for assessing and collecting taxes on income or cash flows and consumption expenditure.
State	Excise duties, licence fees, liquor taxes, gambling taxes, energy taxes, land taxes and resource revenues, benefit taxes or earmarked charges, share in revenues raised by the Federal tier from taxes on income or cash flows and consumption expenditure, and additional surcharges on Federal rates in respect of shared taxes.
Local	Property taxes, direct charges and licence fees, tax sharing in respect of Federal income or cash flow taxes or consumption taxes.

Source: Grewal (1985).

One of the main concerns of the tax effectiveness approach is the concurrent taxation of a single base by a number of jurisdictions, each of which grants different exemptions and applies different tax rates. The proposed solution, under Matthews approach, is for the State and local governments not to levy income, cash-flow, expenditure or consumption taxes themselves. Instead, the Commonwealth Government would have exclusive right to levy these taxes and some of the revenue would be redistributed to the States under explicit revenue-sharing arrangements. These arrangements would allow the States to vary their share of revenue, or the total revenue obtained from the tax, by varying the rate of their surcharge. However, the Commonwealth Government would have the right to define the base.

Matthews gives a number of reasons for adopting this approach. In particular, his concern is that when a shared base is subject to multiple taxes, there is nevertheless a single outcome with respect to equity and other objectives,

including the level of compliance. For this reason, greater coordination between the States in order to harmonise the approach to taxing a particular base is justified. When this is coupled with the potential for cost savings in administering the tax, due to economies of scale and scope in tax collection, Matthews proposed approach appears sensible. This is consistent with the traditional approach of Musgrave, since efficiency is improved by the resource savings in administration and, by ‘piggybacking’ on a Federal base, while the State is able to avoid any problems with a base that is not completely within the State’s jurisdiction (Musgrave’s rule 5). Potential constitutional restrictions that may prevent the adoption of this approach in Australia are discussed later in this appendix.

The public choice approach

The public choice approach to tax assignment in a federation, developed by Brennan and Buchanan (1983), emphasises the need to model the political processes underlying the Federal system within which the tax rules are derived. Unlike the traditional and tax effectiveness approaches to tax assignment, the public choice approach does not explicitly recommend a particular allocation of taxes to particular tiers of government. Instead, it argues for decentralised powers with respect to both tax and expenditure decisions on two grounds. The first is that, in situations where it is desirable for there to be regional differences in the provision of local public goods, then both the necessary expenditure and tax powers should be delegated to the relevant lower tier government. The second is that by decentralising both the taxing and spending powers, the mobility of the citizenry will provide a constraint on the extent to which political agents can deviate from the citizens preferences — people can ‘vote with their feet’.

One of the key features of the public choice approach is its focus on both taxation and expenditure powers. An important implication from this approach is that the allocation of taxation powers within a federation such as Australia should not be considered in isolation from the allocation of expenditure powers and intergovernmental grants (Petchey 1997). These concepts are discussed further below, under the principle of subsidiarity.

The principle of subsidiarity

Subsidiarity is a philosophy about the appropriate assignment of powers and functions to different tiers of government in a federation. These functions include both taxation and expenditure, as well as the power to limit certain forms of behaviour. The principle of subsidiarity states that functions, and the

power to carry out those functions, should be allocated to the lowest 'competent' tier of government. Essentially, a particular task of governance should always be allocated to a lower tier of government, unless a case can be made for allocating it to a higher tier. Such a case would often involve externalities, or economies of scale or scope in exercising the power in question.

The key issues in applying the subsidiarity principle are deciding which tier of government is the lowest that can competently carry out a particular task and establishing the criteria by which competence is assessed (Rhodes 1992, Kasper 1996). Any use of a particular power by a given tier of government will generally benefit some individuals and harm others. Thus, an assessment of the effectiveness of a particular tier of government at using this power will require a comparison of these costs and benefits. Clearly then, a framework for assessing 'competence' will require some form of social welfare criterion, in order to balance the interests of gainers and losers, so that the actual application of the subsidiarity principle is likely to be controversial.²

There are a number of potential justifications for employing the principle of subsidiarity. First, governments which are closer to the citizens affected by their policies may find it harder to act against the interests of those citizens. Second, lower tiers of government have greater knowledge about the needs and desires of the citizens and businesses that are affected by their policies. Finally, the lower tiers of government in a federation are subject to a reasonable degree of horizontal competition, that is, competition between the various State and local governments. This horizontal competition can have an effect on governments similar to the effect that the market for corporate control has on managers. Thus, a decentralised administration may constrain the ability of elected representatives to pursue their own agenda when it is to the detriment of the citizens they represent (Kasper 1996).

Horizontal competition between jurisdictions may potentially operate through two channels. The first, and more significant, is by citizens voting with their feet. If the policies of another jurisdiction are so much more desirable that they outweigh the costs of moving, then citizens are able to relocate to the more desirable jurisdiction. The second is through citizens observing differences in performance between other jurisdiction and their own, and subsequently stimulating public debate or deciding to run for election on a platform of policies that are similar to those employed by the better performing jurisdictions. If a sufficient number of voters agree with them, they will be able to implement those policies. While this second channel is closely aligned to the

² However, the same could be said of most power assignment principles.

operation of the 'market for corporate control', it is unlikely to constrain the behaviour of politicians as effectively as that market constrains the behaviour of directors and managers. Elections only occur at discrete intervals of time and cover a multiplicity of issues, whereas takeover bids may be made for under-performing companies at any time.

A.3 Practical considerations

Having outlined the broad philosophical approaches to the issue of tax assignment in a federation, it is worth focussing on some of the practical aspects of the Australian debate on these issues. First, the efficacy of interstate tax competition is considered. Second, the institutional impediments that the Australian Constitution imposes on the reassignment of certain taxes between the Commonwealth, State and local tiers of government are considered.

Harmonisation, standardisation and interstate tax competition

Interstate differences in either the tax bases and/or the rates applied to those bases have been raised as a potential problem with State taxation arrangements (Walrut 1989, Buchanan 1989, Collins 1990). The main concerns are the efficiency costs imposed by such differences, and the ability of a State to protect its revenue base in the face of interstate tax competition. Clearly, concerns about interstate tax competition (in isolation from expenditure choices) are stronger for intranationally mobile tax bases. Differences in taxes on immobile bases may result in increased compliance costs for some individuals, but differences in taxes on mobile bases are also likely to generate economic efficiency losses and increased administration costs.

Harmonisation refers to a move towards greater uniformity in State definitions of the bases for various taxes. Its principal advantage would appear to be lower compliance costs for the parties legally required to pay the tax. To the extent that the chosen base is identical to a Commonwealth tax base, so that the States can simply impose a surcharge on the Commonwealth tax, there may be some administration cost savings also.

Standardisation refers to the further step of imposing the same tax rates on a common base in all States. In terms of compliance and administration cost savings, standardisation appears a low order issue. In the absence of standardisation, however, there is potential for efficiency losses to arise from the States competing, on the basis of tax rates, for those bases that are intranationally mobile, but internationally immobile. However, not all bases

fall into this category. For tax bases that are internationally mobile, tax competition between the States may actually improve economic efficiency.

A distinction is sometimes drawn between constructive and destructive tax competition. Constructive tax competition is said to allow a simultaneous improvement in the performance of each State's tax system. Collins (1990) provides the hypothetical example of New South Wales simultaneously implementing a substantial cut in payroll tax rates and broadening its base. This would induce both capital and labour to migrate to New South Wales, which in turn would force the other States to fall into line. Classifying a reduction in payroll tax across the States as a constructive outcome is somewhat inappropriate. As is explained in Chapter 6, *payroll tax* is one of the more efficient State taxes. A better example would be a cut in State taxes on financial transactions. Destructive tax competition is said to allow an improvement in the performance of one State's tax system only at the expense of another State's tax system performance. The example of death duties is cited by Collins as an example of destructive tax competition, where the migration of affluent elderly people to Queensland following that State's abolition of death duties induced the other States to fall into line. Thus, a tax that was relatively efficient from an Australia-wide perspective was eliminated by tax competition.

Putting aside the efficacy or otherwise of payroll tax, which is discussed elsewhere in this paper, the key difference between the two types of tax competition appears to hinge on the question of whether or not the reduction of a particular tax by a given State will induce an increase in output or only relocate existing output. That is, is the competition solely for rent seeking purposes or does it increase efficiency?

Constitutional (and other legislative) limitations on tax assignment in Australia

Income taxation

It is sometimes claimed that the States cannot impose an *income tax*. This is not correct.

Up until the Second World War, the States did levy *income taxes*. In 1942, the Commonwealth annexed income taxation to fund the war effort. In annexing the power to levy income taxes, the Commonwealth passed legislation to:

- impose a uniform income tax schedule;
- take over the income tax administration facilities of the States;

- pay a grant to those States that did not levy income tax equal to the average income tax levels applying in 1939–40 and 1940–41; and
- give the Commonwealth income tax precedence over any State income tax.

The High Court subsequently upheld the actions of the Commonwealth Government.³ These changes effectively prevented the States from levying *income taxes*.

The fourth of these rules was overturned by the High Court in 1957. Despite this, the States have been extremely reluctant to levy their own income taxes. Apart from the obvious political costs associated with the introduction of a State-based income tax surcharge, the States were also deterred for much of the intervening time by a fear that the Commonwealth would cut their grants by a corresponding amount if they did so.⁴ In 1978, the Commonwealth passed legislation to allow the States to impose an income tax surcharge (Smith 1993, p. 167). Despite this clarification, no State has yet introduced its own income tax surcharge.

The States do, however, levy a de facto tax on labour incomes in the form of *payroll tax* (Chapter 6). Rather than applying to the value of income received by employees, *payroll tax* is levied on the value of most forms of remuneration paid by employers, whether paid in cash or kind. Despite the difference in legal incidence, *payroll tax* is essentially a tax on labour income. The coverage of *payroll tax* is, however, somewhat narrower than income tax for two main reasons. First, *payroll tax* does not apply to all firms — the payrolls of small businesses and organisations engaged in certain activities (primarily welfare-related) are exempt from *payroll tax*. Secondly, *payroll tax* does not apply to income from non-labour sources (eg. capital income). Thus, the economic effects of *payroll tax* differ from a *comprehensive income tax* (which includes non-labour sources of income).

Expenditure taxation

To a limited extent, the States tax certain forms of expenditure. Constitutional restrictions, however, severely restrict the revenue raising ability of the States in this area.

The Australian Constitution explicitly prevents the States from levying customs and excise duties on goods. Section 90 states that:

³ South Australia v. Commonwealth (First Uniform Tax case) 65 CLR 373

⁴ The term surcharge denotes that any State-based *income tax* would be in addition to the pre-existing Commonwealth *income tax*.

... on the imposition of uniform duties of customs the power of the Parliament [the Commonwealth] to impose duties of customs and of excise, and to grant bounties on the production or export of goods, shall be exclusive.

Customs duties are taxes levied on goods produced overseas. However, the definition of *excise duties* is far from clear and has been the subject of considerable litigation this century. The High Court has been called on numerous times to interpret what constitutes an *excise duty*, and its interpretations have changed over time. The High Court's various interpretations have been crucial to legality or otherwise of State *franchise fees* (see Chapter 9). In essence, the decisions of the majority of the High Court in the *Walter Hammond case* (Brennan CJ, McHugh, Gummow and Kirby JJ) reaffirmed an earlier decision in *Bolton v. Madsen* that 'a tax on the taking of a step in the process of the production or distribution of goods before they reach consumers is an excise'. This interpretation essentially prevents the States from levying a tax on the sale of any new (as opposed to second-hand) commodity. The States may be able to levy a tax on total consumption or total expenditure, but only indirectly, by taxing income less net saving by an individual in a given period.

Despite this, a number of States tax certain forms of expenditure, by taxing certain market transactions (usually on transfer of certain assets). *Conveyancing duty*, for example, is a tax levied on the purchase of real property (primarily land). The States levy similar taxes on the transfer of motor vehicles and shares.

The High Court's interpretation of an *excise duty* limits the ability of the States to raise revenue, by allowing some economic transactions to be taxed, but not others, even though the transactions are ostensibly identical. It appears that, while the States cannot legally tax the first sale of a good such as a motor vehicle in the form of a sales tax, they can achieve the same effect by taxing the transfer of the motor vehicle from the retailer to the purchaser in the form of a stamp duty. Similarly, it appears that the States can tax some factors of production (eg. labour and land), but not others (eg. capital). These limitations are likely to reduce efficiency and limit the ability of the States to reform their tax bases.

In contrast, it appears that constitutionally, the States may be able to tax services, as section 90 explicitly refers to taxes levied on goods, not services. The New South Wales Tax Task Force (1988, p. 35) came to a similar conclusion. At the margin, however, the distinction between what constitutes a good and what constitutes a service is unclear. Consider, as a hypothetical example, the introduction of a State *service tax* on restaurants, a key service industry. Suppose that, in addition to serving dinner, a restaurant also provides

live entertainment during dinner. What component of the restaurant bill relates to the provision of services (the entertainment and the table service) and what component relates to the provision of goods (the food)?

Current State taxation of services is far from comprehensive. The States levy a number of narrowly defined taxes on particular services, primarily insurance, financial transactions and gambling. Most taxes on services are levied via stamp duties on particular transactions. In its 1996–97 budget, the NSW Government ventured, albeit tentatively, into taxing accommodation, by introducing an accommodation duty on the occupancy of hotel rooms in the Sydney CBD.

Where the States tax services, they do so by indirect means. Rather than taxing the service itself (eg. the stream of services provided by a financial institution), the State governments tax the associated transactions (eg. the act of making a withdrawal or deposit). The transaction being taxed may be a poor proxy for the underlying service. However, savings in administration costs and other practical consideration may favour transactions-based service taxes. This issue is discussed in more detail in Chapter 8.

Expenditure

As for the power to undertake expenditure, the Constitution confers on the Commonwealth the right to engage in a diverse range of activities, ranging from defence and external affairs through to marriages, fisheries and weights and measures (section 51). All residual powers, except those exclusively granted to the Commonwealth or those from which the States have voluntarily withdrawn, reside with the States (section 107). The wide range of powers granted under sections 51, 52, 90, 98 and 109 and subsequent High Court interpretations, however, appear effectively to enable the Commonwealth to engage in most areas of government expenditure.⁵ Likewise, the Constitution does not appear to restrict the activities that the States can undertake, so long as they are not inconsistent with the laws of the Commonwealth and are not related to:

- defence (section 114);
- coining money (section 115);
- post, telegraphs and telephones (section 69);
- naval and military defence (section 69);
- lighthouses, lightships, beacons and buoys (section 69); and
- quarantine (section 69).

⁵ Section 116, however, explicitly prevents the Commonwealth from legislating over religion.

The revenue raising powers at the disposal of local government and the expenditure functions they undertake are controlled by State governments. Therefore, any alteration to these arrangements could only occur with the cooperation of State governments.

A.4 Summary

Tax assignment in a federation is a controversial issue that has so far failed to yield a widely accepted solution. Indeed, the debate surrounding this issue in Australia can be crudely classified into two approaches — the public choice/subsidiarity approach and the harmonisation/uniformity approach. At first glance, these approaches appear to be irreconcilable.

One approach calls for as much decentralisation as possible, believing that interjurisdictional competition on expenditure, taxation and other regulatory decisions promotes improvements in efficiency in a similar fashion to competition in the marketplace. It is important to emphasise that this approach considers the simultaneous use of taxation and expenditure powers, rather than treating the allocation of these powers separately. One of the advantages of competition is the potential for a variety of sub-jurisdictions with different tax-expenditure combinations to coexist, while still maintaining incentives for fiscal responsibility.

The other approach believes that such competition simply affects location outcomes and, as such, may lead to resources being wasted on rent seeking behaviour. Furthermore, differences in tax bases may increase both administration and compliance costs and lead to losses in economic efficiency. This approach, however, ignores expenditure issues. Citizens move between jurisdictions, not just in response to tax differences, but to differences in tax-service combinations. Governments with a need to preserve their population bases will have an incentive to find relatively efficient means of raising revenue to provide services, so as not to erode their tax/population bases. Thus, they will have an incentive to use intranationally immobile tax bases to fund differences in expenditure. Taxing immobile bases is also likely to minimise adverse selection problems.

This paper nevertheless looks at the narrower question of the opportunities for tax reform, independently from expenditure issues. From this perspective, an economic efficiency approach is taken to tax reform options, where economic efficiency is interpreted broadly to include administration and compliance costs. Thus, harmony between the States with respect to the definition of mobile tax bases is seen as desirable. Consideration could even be given to taxing these commonly defined bases via a surcharge on a Commonwealth Government tax,

as a way of achieving administrative cost savings. State use of tax bases that are immobile between States is seen as a way of minimising efficiency losses. Where States use bases that are mobile between States, minimising efficiency losses will depend on the willingness of the States to cooperate with each other, at least with respect to base definition. These principles need to be tempered by both fiscal responsibility considerations and, very importantly, the constraints imposed by the Australian Constitution. This approach to State taxation is likely to produce a pattern of State taxation somewhere between the extremes advocated by the public choice/subsidiarity and the harmonisation/uniformity approaches.

B MEASURING THE EFFICIENCY OF STATE TAXES

This appendix discusses the main ways that the efficiency losses discussed in Chapter 3 can be estimated in practice. It begins with a brief discussion of the various ways of measuring these losses in a partial equilibrium context. The appendix then derives mathematically the particular measure used in this paper — the equivalent variation measure of marginal excess burden. It gives a brief discussion of the compensated elasticity of demand needed to estimate the equivalent variation measure, and shows how this can be derived from available measures of the uncompensated elasticity. It then gives extensions to the basic model to deal with the presence of Commonwealth taxation and with externalities.

B.1 Different measures of efficiency loss

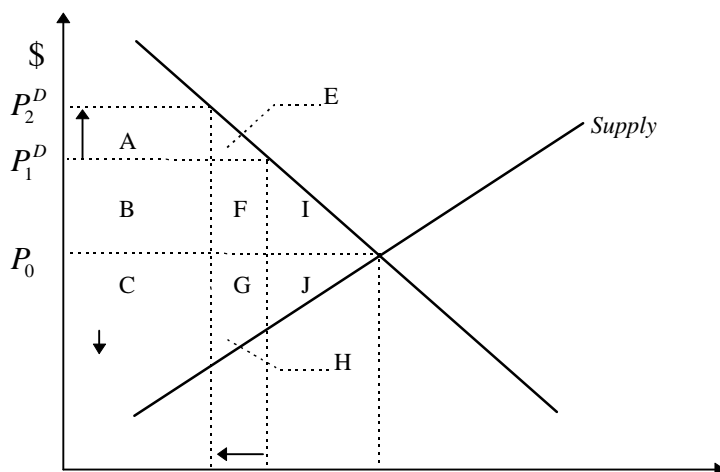
The efficiency loss or gain from a tax can be measured in two ways — the *total* loss or gain in efficiency caused by a tax (total deadweight loss or gain) and the *change* in efficiency caused by raising an additional unit of revenue from a tax (marginal deadweight loss or gain). These different concepts are illustrated in Box B.1.

A total deadweight loss indicates the total gain in efficiency possible, if a tax did not exist. However, without the revenue flowing from the tax, the States would not be able to provide services. In addition, the total deadweight loss does not indicate whether the current tax mix is the most efficient way of raising the revenue required or whether greater or lesser reliance should be placed on an individual tax.

To ascertain whether the existing mix of taxes is socially optimal and to identify reform options, it is better to consider marginal deadweight losses. The most efficient way to raise a given amount of revenue, in the absence of administration and compliance costs, is by equating the marginal deadweight losses across all taxes (Ramsey 1927). The States can improve the efficiency of their tax system by reducing their reliance on those taxes with excessively high marginal deadweight losses. Hence, knowing the marginal deadweight loss of the various State taxes is the first step to designing a better tax system. This paper, therefore, focuses on the marginal deadweight loss.

Box B.1: Efficiency losses from taxation

To illustrate the concepts of total and marginal deadweight loss, consider the introduction of a tax within a partial equilibrium framework. The curve labelled *Demand* represents aggregate consumer demand for the taxed good over the given price range, while the curve labelled *Supply* represents the total quantity produced. In the absence of taxation, Q_0



units would be produced and consumed at the price P_0 .

Now suppose that the government levies an ad-valorem tax of t per cent of the producer's price. The tax will drive a wedge between the price paid by consumers (P_1^D) and that received by producers (P_1^S) equal to $t \times P_1^S$. Suppose that, as a result of the tax, the price paid by consumers increases from P_0 to P_1^D and that received by producers decreases from P_0 to P_1^S . The quantity produced and consumed falls from Q_0 to Q_1 .

Consumers are made worse off by the tax for two reasons. First, they consume less of the taxed good because the price has risen (equal to the area I). Secondly, they pay a higher price for those units of the taxed good still consumed (equal to the area $B+F$). The net loss to consumers is the area $B+F+I$.

Similarly, producers lose the profit they were making on the units of the taxed good no longer consumed (equal to the area J). Producers also make less profit on those units of the taxed good still consumed (equal to the area $C+G$). The net loss to producers is the area $C+G+J$. However, the government

raises tax revenue equal to the area $B+C+F+G$. The net effect overall is the *deadweight loss* of the tax. It is referred to as a loss, if the tax

(cont ...)

Box B.1: (cont ...)

revenue generated is less than the loss in consumer well-being and producer profits. The loss represents the overall loss in welfare incurred by society, assuming that the ensuing government expenditure is valued the same as the amount of revenue raised, and is equal to the area $I+J$ (equal to $B+C+F+G - (B+F+I) - (C+G+J)$).

Now consider the case where the government increases the tax by a small amount (a marginal increase). This increases the price paid by consumers from P_1^D to P_2^D and decreases the price received by producers from P_1^S to P_2^S . The change in the deadweight loss brought about by the marginal increase in the tax rate is known as the *marginal deadweight loss*. In this case, it equals the area $E+F+G+H$. For a given tax rate (the height of area $E+F+G+H$), the size of this area increases with the change in the quantity consumed (the width of area $E+F+G+H$), which, in turn, depends on how flat (or elastic) the demand and supply curves are.

In practice, the marginal deadweight loss is usually expressed as a share of the additional revenue generated by the tax. The change in tax revenue equals the additional tax revenue raised from consumers and producers generated by the higher tax rate (areas A and D , respectively) less the tax revenue forgone on the lower level of consumption (areas F and G). In this case, the *marginal deadweight loss* would be expressed as

$\frac{E + F + G + H}{[A - F] + [D - G]}$. For very small changes in the tax rate, areas E and H are often

ignored. In this case, the *marginal deadweight loss* becomes $\frac{F + G}{[A - F] + [D - G]}$.

There are three alternative measures of the marginal deadweight loss of taxation:

- the Marshallian measure of the marginal excess burden;
- the compensating variation (CV) measure of the marginal excess burden; and
- the equivalent variation (EV) measure of the marginal excess burden.

Each of these measures estimate, in different ways, the resulting change in aggregate efficiency, measured in monetary terms. The terms excess burden and deadweight loss are used interchangeably in the theoretical literature.

Marshallian measure of marginal excess burden

The Marshallian measure of the marginal excess burden ($MXSB_M$) evaluates the net change in aggregate purchaser willingness to pay and producer profits for a small change in the tax rate. Purchasers derive a benefit from consuming goods in excess of the price paid and this is reflected by the area under the Marshallian demand curve (also called an uncompensated or ‘ordinary’ demand curve) above the price paid (called consumer surplus) (Marshall 1920, Willig 1976). Correspondingly, producers earn profits and this is reflected by the area between the price paid and the supply curve (the cost of production) (called producer surplus). $MXSB_M$ calculates the change in purchaser and producer surpluses relative to the amount of tax revenue raised.

Figure B.1 shows the differences between the various measures of marginal excess burden more clearly. The small increase in the tax rate, dt , has been deliberately exaggerated to make the diagram easier to understand. However, unlike the figure in Box B.1, Figure B.1 shows the Marshallian demand curve (D_m), the Hicksian demand curve (also called the compensated demand curve) evaluated about the initial utility level ($h(u^0)$) and the Hicksian demand curve evaluated about the final utility level ($h(u^1)$). The Hicksian demand curves are drawn for a normal good — a good whose demand increases as income increases. For an inferior good — a good whose demand decreases as income increases — the Hicksian demand curves would be flatter than the corresponding Marshallian demand curve.

In terms of the change in purchaser well-being (as opposed to producer profits) arising from a small tax increase dt , the $MXSB_M$ will measure the change in the area under the Marshallian demand curve — the area $A+B+C+F$ in Figure B.1.

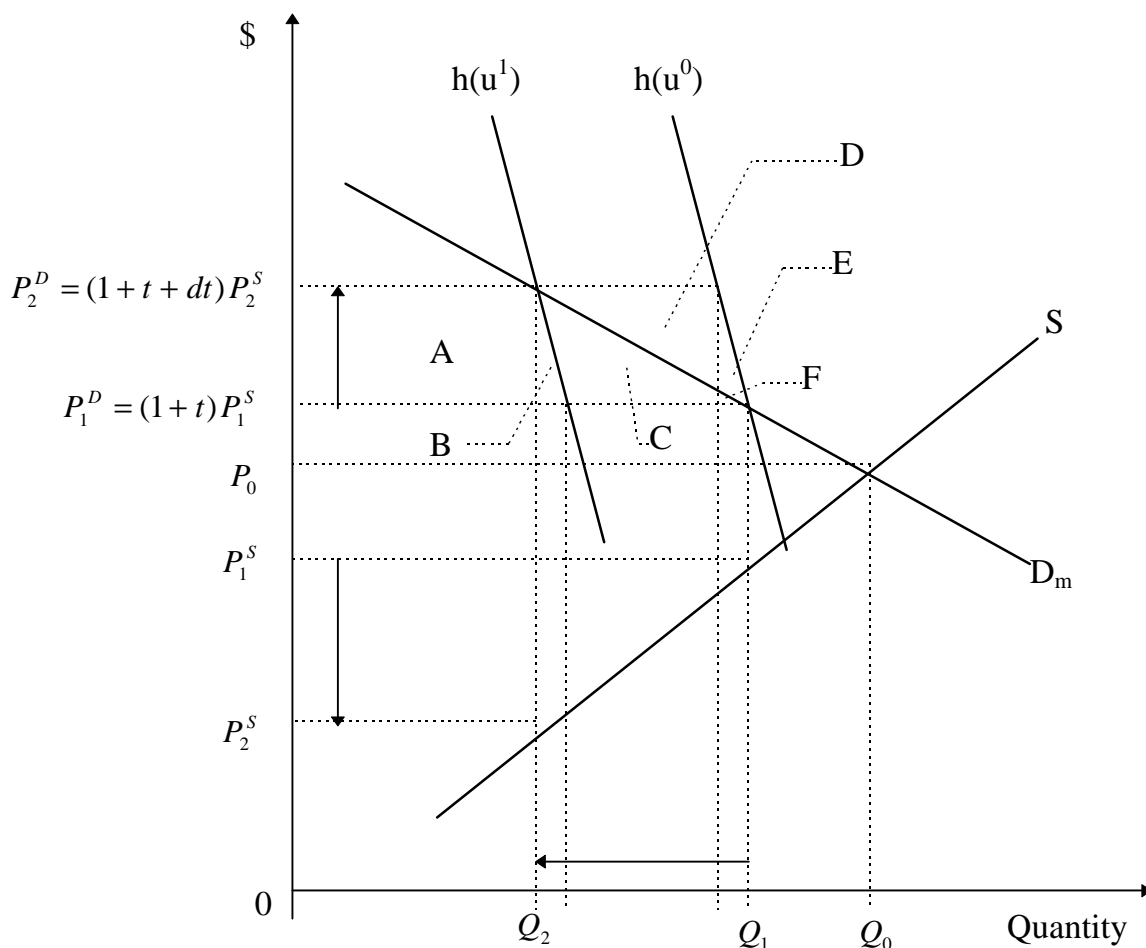
The appeal of the Marshallian measure for empirical work stems from its simplicity; it requires less information and it is easier to compute than both the compensating and equivalent variation measures. However, it lacks the sound theoretical underpinning as a measure of efficiency that the other measures possess, by incorrectly including the effects on purchaser well-being associated with the resulting change in real income. This may not be a major problem, if the effects of the price change on real incomes are small.

Equivalent and compensating variation measures of marginal excess burden

Both the equivalent and compensating variation methods ($MXSB_{EV}$ and $MXSB_{CV}$, respectively) possess the sound theoretical justification that the Marshallian measure lacks. Given a specified utility function, they both

calculate, in different ways, the change in income needed to maintain purchaser well-being.

Figure B.1: Marshallian, equivalent variation and compensating variation measures of marginal excess burden



The EV measure asks what change in income, at pre-tax prices, would be equivalent to the effect of the tax. The CV measure asks what change in income would be necessary, at post-tax prices, to compensate the purchaser for the effect of the tax (Hicks 1942). In most cases, the answers will be different. The EV measure is preferred on theoretical grounds because it possesses the desirable quality of being minimised by optimal taxes (Kay 1980). In addition, it is better suited to policy work, as all alternatives are evaluated using common pre-tax prices, rather than the various post-tax prices used by the CV measure (King 1983, p. 193).

The notion of costlessly compensating purchasers from the tax revenue raised for the loss in utility is central to both the EV and CV measures of the change in

efficiency. An increase in a commodity tax will not only increase the price of the commodity faced by purchasers, but will also reduce the purchasing power of their monetary incomes. This reduction in real income may alter the utility (well-being) of purchasers. Both the EV and CV measures assume that purchasers are compensated for any loss in utility (well-being) resulting from the tax increase — the former at pre-tax prices and the latter at post-tax prices.

In terms of the change in purchaser well-being arising from a small tax increase dt , the EV measure calculates the change in the area under the Hicksian demand curve evaluated about the final utility level (post-marginal change in the tax rate) — the area $A+B$ in Figure B.1. In comparison, the CV measure calculates the change in the area under the Hicksian demand curve evaluated about the initial utility level (pre-marginal change in the tax rate) — the area $A+B+C+D+E+F$ in Figure B.1. In this example, the Marshallian measure ($MXSB_M$) would overstate the EV measure ($MXSB_{EV}$), but understate the CV measure ($MXSB_{CV}$).

Rather than calculating the area under compensated demand curves, most general equilibrium studies derive their estimates of the EV and CV from the underlying expenditure functions.¹ These studies calculate the change in aggregate purchaser well-being less the amount of tax revenue collected.²

One reason commonly advocated for the use of the Marshallian measure of marginal excess burden, in preference to either the EV or CV measures, is that it requires less information. However, this need not be the case. Cornes (1992, pp. 216–221) points out that the information needed to estimate the demand function underlying the Marshallian measure is sufficient to allow the EV measure to be calculated. Even if the demand system is not estimated, it is possible to derive the compensated demand changes needed to calculate the EV from their Marshallian counterparts (Varian 1984, p. 130). All that is needed is the sensitivity of Marshallian demand to changes in income, and the initial budget share. Despite this, the derivation is seldom done in practice.

¹ Most intermediate microeconomic textbooks show how to derive the EV and CV from the underlying expenditure functions. See, for example, Cornes (1992, pp. 209–212) or Varian (1984, p. 264).

² To differentiate the resulting measures of efficiency loss from their gross counterparts that exclude the change in tax revenue, some authors use the term equivalent and compensating gain (eg. King 1983, Han 1996). The use of this terminology is not widespread. Many studies do not differentiate between the two (eg. Varian 1984). The practice used here, based on Brown and Jackson (1990), is to refer to the net measures as the equivalent and compensating variation measures of marginal excess burden.

Three Australian studies have employed these techniques to estimate the efficiency costs from State taxation. Han (1996) constructed a highly stylised model of the Australian economy to estimate a general equilibrium measure of the marginal excess burden associated with, amongst other things, payroll taxation. He also lumped *franchise fees*, *motor vehicle taxes* and *stamp duties* together with a number of Commonwealth taxes to form an aggregate 'consumption tax'. The parameter values in his stylised model were econometrically estimated from time series data. In summarising his findings, Han (1996, p. 29) stated that:

These figures [his estimates of the marginal excess burden] turn out to be sensitive to the period chosen, the magnitude of shocks and particularly, a parameter of the consumer utility function. However, the order of inefficiency remains relatively stable and by any standards they appear to be very high.

Unlike Han's general equilibrium assessment, Albon (1997a, 1998), in two related papers, estimated a partial equilibrium, EV measure of the marginal excess burden of selected State and Commonwealth taxes. After a brief review of the literature, he concluded, in all cases that he looked at, that the uncompensated elasticity was a close approximation to the compensated elasticity. He simplified the analysis by assuming that the marginal cost of production was constant (ie. that the supply curves were horizontal). He then evaluated the marginal excess burden around a change in the average effective rate of taxation (including pre-existing Commonwealth taxes). His findings, together with those of this paper, are discussed in Chapter 4.

A fourth Australian study, Access Economics (1995), employed a general equilibrium approach similar to Han (1996). However, unlike Han and Albon, Access Economics only estimated the size of the average efficiency loss, rather than the marginal loss.³ Despite having similar sounding names, the average EV and CV estimated by Access Economics are substantially different from their marginal counterparts. It is not, however, possible to calculate the marginal EV and CV from the information published.

³ The average marginal excess burden of a tax represents the total loss in efficiency associated with the tax (the total excess burden) divided by the total revenue collected. This measure does not take into account the effects of any marginal change in the tax rate. Unlike Access Economics (1995) who only estimated the average excess burden, Han (1996) also estimated the marginal excess burden of selected State taxes.

B.2 A partial equilibrium measure of marginal excess burden

The partial equilibrium measure of efficiency loss estimated in this paper seeks to extend Albon's partial equilibrium measure by relaxing his assumption of constant marginal costs. Although theoretically less rigorous than the general equilibrium measures estimated by Han (1996), it is computationally simpler.

Assuming constant marginal costs, Albon (1997a, p. 274) asserts that the marginal deadweight loss of a tax can be measured by:

$$(B.1) \quad \frac{dDWL}{dT} = -\frac{t\varepsilon / P}{1 + t\varepsilon / P}$$

where:

$dDWL$ change in the deadweight loss;

dT change in taxation revenue;

t ad valorem tax rate (pre-marginal change);

ε own-price [point] elasticity of demand; and

P [normalised] price (inclusive of existing taxes, that is, $1 + t$).

If the elasticity of demand (ε) is a compensated elasticity then equation (B.1) will yield the EV measure of marginal excess burden. However, if the elasticity is an uncompensated elasticity then equation (B.1) will yield the Marshallian measure of marginal excess burden.

The assumption of constant marginal costs means that the supply curve is horizontal and, therefore, that purchasers bear the entire burden of the tax. This assumption will be more appropriate in the markets for goods produced by competitive industries and in the longer run, when those producers can alter their production decisions. It will be less appropriate in the markets for labour or land.

In the short run, or in markets where the supply curve is not horizontal, the size of the deadweight loss will be smaller than that indicated by equation (B.1).⁴ To allow for this possibility, the assumption of constant marginal cost will now be relaxed.

⁴ All other things being equal, the deadweight loss will be smaller, the lower the elasticity of demand and/or supply. In the short run, the elasticity of supply will be lower than in the long run, owing to the presence of fixed factors (such as physical capital) that limit supply adjustments.

In the figure in Box B.1, let P_0 represent the tax-free price. Consider the introduction of an ad valorem tax of t per cent levied on producer prices such that:

$$(B.2) \quad t = \frac{P_1^D - P_1^S}{P_1^S}$$

Rearranging this gives:

$$(B.3) \quad tP_1^S = P_1^D - P_1^S$$

$$P_1^D = P_1^S + tP_1^S$$

$$(B.4) \quad P_1^D = (1+t)P_1^S$$

Assume that the tax is distributed between purchasers and producers in the proportions α and $(1-\alpha)$, respectively, where $0 \leq \alpha \leq 1$, such that:

$$(B.5) \quad \frac{dP^D}{P^D} = \alpha t$$

Following a tax increase, the producer price will change by:

$$(B.6) \quad \frac{dP^S}{P^S} = -(1-\alpha)t = (\alpha-1)t$$

The tax inclusive price paid by purchasers (P_1^D) will be:

$$(B.7) \quad P_1^D = P_0 + \alpha t P_0 = (1 + \alpha t) P_0$$

The after-tax price received by producers (P_1^S) is, therefore:

$$(B.8) \quad P_1^S = \frac{P_1^D}{1+t} = \frac{(1 + \alpha t) P_0}{1+t}$$

Partially differentiating equation (B.7) with respect to the tax rate yields:

$$(B.9) \quad \frac{\partial P_1^D}{\partial t} = \frac{\partial(1 + \alpha t)}{\partial t} P_0 + \frac{\partial P_0}{\partial t} (1 + \alpha t)$$

$$\frac{\partial P_1^D}{\partial t} = \alpha P_0 + 0(1 + \alpha t) = \alpha P_0$$

The Marshallian point elasticities of demand (ϵ_D) and supply (ϵ_S) equal:

$$(B.10) \quad \epsilon_D = \frac{dQ^D / Q^D}{dP^D / P^D}$$

$$(B.11) \quad \epsilon_s = \frac{dQ^s / Q^s}{dP^s / P^s}$$

Rearranging these, and substituting the results into equations (B.5) and (B.6), gives the percentage change in demand and supply:

$$(B.12) \quad \frac{dQ^D}{Q^D} = \epsilon_D \frac{dP^D}{P^D} = \alpha t \epsilon_D$$

$$(B.13) \quad \frac{dQ^s}{Q^s} = \epsilon_s \frac{dP^s}{P^s} = (\alpha - 1)t \epsilon_s$$

As the initial quantity demanded equals that supplied (ie. $Q^D = Q^s = Q_1$) and the changes in production and consumption are equal ($\partial Q^D = \partial Q^s$), then:

$$\frac{\partial Q^D}{Q^D} = \frac{\partial Q^s}{Q^s}$$

Substituting in equations (B.12) and (B.13) gives:

$$\alpha t \epsilon_D = (\alpha - 1)t \epsilon_s$$

Rearranging this gives:

$$\frac{\epsilon_D}{\epsilon_s} = \frac{(\alpha - 1)t}{\alpha t} = \frac{(\alpha - 1)}{\alpha} = 1 - \frac{1}{\alpha}$$

$$\frac{1}{\alpha} = 1 - \frac{\epsilon_D}{\epsilon_s} = \frac{\epsilon_s - \epsilon_D}{\epsilon_s}$$

Inverting this gives:

$$(B.14) \quad \alpha = \frac{\epsilon_s}{\epsilon_s - \epsilon_D}$$

and:

$$(B.15) \quad (1 - \alpha) = 1 - \frac{\epsilon_s}{\epsilon_s - \epsilon_D} = \frac{\epsilon_s - \epsilon_D - \epsilon_s}{\epsilon_s - \epsilon_D} = \frac{-\epsilon_D}{\epsilon_s - \epsilon_D}$$

Therefore, the increase in price will be distributed between purchasers and producers in proportion to the relative size of the other's own-price elasticity. That is, the share of the tax born by purchasers depends on the relative size of the elasticity of producers and vice versa.

Change in the Marshallian deadweight loss

For a marginal increase in the ad valorem tax rate (such that dt is small), the areas denoted E and H in the figure in Box B.1 will be so small that they can be effectively ignored. This leaves the change in the Marshallian deadweight loss as area $F + G$. The size of this loss will be:

$$(B.16) \quad \frac{dDWL}{dt} = -(P_1^D - P_1^S)(Q_1 - Q_2)$$

Substituting equation (B.3) into equation (B.16) and given that $\frac{dQ}{dt} = Q_1 - Q_2$, this yields:

$$(B.17) \quad \frac{dDWL}{dt} = -tP_1^S \frac{dQ}{dt}$$

If we normalise all prices about P_1^S (whereas Albon normalised his prices about P_0), so that:

$$(B.18) \quad P_1^S = 1$$

and:

$$(B.19) \quad P_1^D = 1 + t$$

equation (B.17) becomes:

$$(B.20) \quad \frac{dDWL}{dt} = -t \frac{dQ}{dt}$$

Using the chain rule:

$$(B.21) \quad \frac{dQ}{dt} = \frac{\partial Q}{\partial P^D} \frac{\partial P^D}{\partial t} \text{ or } dQ = \frac{\partial Q}{\partial P^D} \frac{\partial P^D}{\partial t} dt$$

Initially, assume that the demand curve is not horizontal (ie. that $\varepsilon_D \neq \infty$) so that the change in quantity can be calculated from the change in purchaser prices.⁵ Rearranging the formula for the elasticity of demand gives:

$$(B.22) \quad \frac{\partial Q}{\partial P^D} = \varepsilon_D \frac{Q_1}{P_1^D} = \varepsilon_D \frac{Q_1}{1+t}$$

Equating equations (B.4) and (B.7) gives:

$$(1+t)P_1^S = (1+\alpha)P^0$$

⁵ This assumption will be relaxed at a later stage.

$$P^0 = \frac{(1+t)P_1^S}{(1+\alpha)} = \frac{(1+t)}{(1+\alpha)}$$

Substituting this in equation (B.9) gives:

$$(B.23) \quad \frac{\partial P^D}{\partial t} = \alpha P^0 = \alpha \frac{(1+t)}{(1+\alpha)}$$

Substituting equations (B.22) and (B.23) into equation (B.21) yields:

$$(B.24) \quad dQ = \varepsilon_D \frac{Q_1}{P_1^D} \alpha \frac{(1+t)}{(1+\alpha)} dt$$

Substituting for P_1^D from equation (B.19) and rearranging yields:

$$(B.25) \quad dQ = \alpha \varepsilon_D \frac{Q_1}{(1+t)(1+\alpha)} dt = \alpha \varepsilon_D \frac{Q_1}{1+\alpha} dt$$

For a marginal change in the tax rate (ie. when dt is small, but non-zero), the change in the quantity consumed becomes:

$$(B.26) \quad \frac{dQ}{dt} = \alpha \varepsilon_D \frac{Q_1}{1+\alpha}$$

Substituting in equation (B.14) yields:

$$(B.27) \quad \frac{dQ}{dt} = \frac{\varepsilon_D \varepsilon_S}{(\varepsilon_S - \varepsilon_D)} \frac{Q_1}{(1+\alpha)}$$

Substituting equation (B.27) into equation (B.20) yields the change in the Marshallian deadweight loss:

$$(B.28) \quad \frac{dDWL}{dt} = -\frac{\varepsilon_D \varepsilon_S}{(\varepsilon_S - \varepsilon_D)} \frac{tQ_1}{(1+\alpha)}$$

Change in tax revenue

Prior to the marginal change, the amount of tax revenue raised is:

$$(B.29) \quad T = tQ_1$$

Totally differentiating this yields:

$$(B.30) \quad dT = Q_1 dt + t dQ \quad \text{or} \quad \frac{dT}{dt} = Q_1 + t \frac{dQ}{dt}$$

Substituting in equation (B.27) gives:

$$(B.31) \quad \frac{dT}{dt} = Q_1 + t \frac{\epsilon_D \epsilon_S}{(\epsilon_S - \epsilon_D)} \frac{Q_1}{(1 + \alpha t)}$$

The change in tax revenue will be less than Q_1 , if the second term in equation is negative for an increase in t . As $\epsilon_D < 0$ and $\epsilon_S > 0$, this will be the case.

Marshallian measure of marginal excess burden

Using equations (B.28) and (B.31) and dividing the numerator and denominator throughout by Q_1 , the Marshallian measure of the marginal excess burden ($MXSB_M$) is:

$$(B.32) \quad MXSB_M = \frac{dDWL}{dT} = \frac{\frac{dDWL}{dt}}{\frac{dT}{dt}} = - \frac{\frac{t}{(1 + \alpha t)} \frac{\epsilon_D \epsilon_S}{(\epsilon_S - \epsilon_D)}}{1 + \frac{t}{(1 + \alpha t)} \frac{\epsilon_D \epsilon_S}{(\epsilon_S - \epsilon_D)}}$$

which is equivalent to Albon's original formula where the marginal cost of production is allowed to vary.

An equivalent variation measure of marginal excess burden

The difference between the Hicksian measure of the marginal excess burden and corresponding Marshallian measure relates to the demand curve used — the former uses a compensated demand curve, while the latter uses an uncompensated demand curve. The compensated and uncompensated demand curves will, in general, have different slopes and, hence, different elasticities of demand.

If we replace the uncompensated elasticity of demand (ϵ_D) in equation (B.32) with the compensated elasticity (ϵ_D^H), the resulting equation will then indicate the change in the excess burden under the Hicksian demand curve. As the deadweight loss is evaluated about the initial price level, the resulting measure represents the equivalent variation. Thus, the marginal equivalent variation ($MXSB_{EV}$) is:

$$(B.33) \quad MXSB_{EV} = \frac{dDWL}{dT} = - \frac{\frac{t}{(1 + \alpha t)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}{1 + \frac{t}{(1 + \alpha t)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}$$

Equation (B.33) was used to estimate the marginal excess burden associated with State taxation. Where available, the compensated elasticities used were

drawn directly from the empirical literature. However, where they were not available, but sufficient additional information existed, the compensated elasticities were estimated from the Marshallian elasticities using the procedure outlined in equation (B.34) below.

Albon (1997a, 1998) evaluated the Marshallian marginal excess burden about the average effective rate of tax. This, however, obscures the fact that the marginal deadweight loss may vary depending on how the additional revenue is raised. The loss associated with removing an exemption, for example, will be lower than that caused by an increase in the statutory rate, all other things being equal. In light of this, this paper seeks to shed some light on how the marginal deadweight loss differs between the various financing options. It, therefore, evaluates the marginal deadweight loss about the tax rate faced by the relevant class of taxpayer.

Calculating compensated elasticities of demand

The compensated elasticity of demand (ε_D^H) can be derived from its Marshallian equivalent using the Slutsky equation (based on Silberberg 1990, p. 338):

$$(B.34) \quad \varepsilon_D^H = \varepsilon_D + \varepsilon_Y \frac{P_1^D Q_1}{Y} = \varepsilon_D + \theta \varepsilon_Y$$

where:

ε_Y income elasticity of demand;

Y income; and

θ budget share (before the marginal change in the tax rate).

Thus, the Hicksian or compensated elasticity of demand (ε_D^H) can be estimated from the corresponding Marshallian elasticity (ε_D), if the income elasticity of demand (ε_Y) and the budget share (θ) are known. For those goods where the income effects are small, the Marshallian (uncompensated) elasticity will approximate the underlying Hicksian (compensated) elasticity.

Modifications for taxes applying to purchasers' prices

The formula for the MXSB derived above applies for ad valorem taxes expressed as a percentage of producer prices (eg. *franchise fees*). This is reflected in equation (B.4) where:

$$P_1^D = (1 + t) P_1^S$$

However, not all State taxes are expressed in terms of producer prices. Some taxes, such as those on payrolls and land, are expressed as ad valorem shares of purchaser prices. In this case:

$$(B.35) \quad P_1^S = (1 - m)P_1^D$$

To use equation (B.33) to calculate the MXSB of these taxes, the statutory tax rate (m) needs to be converted into an ad valorem equivalent expressed as a percentage of producer prices.

Rearranging equation (B.35) gives:

$$(B.36) \quad P_1^D = \frac{P_1^S}{(1 - m)}$$

Equating equations (B.4) and (B.36) yields:

$$(1 + t)P_1^S = \frac{P_1^S}{(1 - m)}$$

$$(1 + t) = \frac{1}{(1 - m)}$$

$$(B.37) \quad t = \frac{1}{(1 - m)} - 1 = \frac{1 - (1 - m)}{1 - m} = \frac{1 - 1 + m}{1 - m} = \frac{m}{1 - m}$$

The statutory tax rates for taxes expressed as a percentage of purchaser prices can, therefore, be converted to taxes as a share of producer prices using equation (B.37).

B.3 Extensions to the basic model

The measure of MXSB derived in the previous section relates to a tax levied by a single level of government. Yet, a number of commodities subject to State taxation are also taxed by the Commonwealth. This 'double taxation' means that a change in a State tax will change the size of the combined Commonwealth/State tax wedge, thereby affecting the size of the overall efficiency loss (and vice versa). Therefore, the measure of efficiency loss derived in the previous section needs to be extended to allow for the presence of Commonwealth taxes on these commodities as well.

The presence of external effects (called externalities) also complicates the analysis. Some of the commodities subject to State taxation, such as smoking, produce external effects that need to be taken into account in assessing the overall change in efficiency.

This section seeks to extend the measure of MXSB associated with State taxation in the presence of Commonwealth taxes and externalities. The discussion is more technical in nature, focusing on those issues relevant to the calculation of the MXSB.

Multiple taxation

‘Double taxation’, whereby State and Commonwealth taxes are levied on the same activity, causes additional efficiency losses compared with either of the taxes levied by themselves. Albon (1997b, pp. 3–5) illustrates the implications of ignoring this ‘double taxation’ using a diagram and numerical example. In that case, he considered the efficiency implications of a reduction in *tariffs* — a tax on imports — in the presence of *wholesale sales tax* and *stamp duties* on motor vehicles. Albon demonstrated that the ‘double taxation’ effects can be significant and, if overlooked, the resulting efficiency loss may not provide an accurate measure of the resulting change in efficiency.

Within Australia, State and Commonwealth taxes interact in three main ways:

- some State and Commonwealth taxes are levied on the same tax base (eg. *payroll tax* and *income tax*);
- some State tax bases include the Commonwealth tax already paid (eg. *franchise fees* on petrol, tobacco and liquor); and
- some State taxes are deductible for Commonwealth *income tax* purposes (eg. *payroll tax* and *land tax*).⁶

Each of these will now be considered in turn.

Additive State and Commonwealth taxes

This paper uses the term additive to describe State and Commonwealth taxes levied on the same tax base. The distinction that is important here is that the State tax is levied on the pre-Commonwealth tax value. It is initially assumed that the taxes have identical tax bases.

Additive taxes can be treated as separate, but related, taxes. In terms of the notation used earlier, the overall tax rate (t) will, therefore, represent the sum of the two taxes:

$$(B.38) \quad t = t_c + t_s$$

where:

⁶ Commonwealth *income tax* is levied on all forms of income, not just the labour income covered by *payroll tax*.

t_c denotes the Commonwealth tax, expressed in ad valorem terms; and

t_s denotes the State tax, expressed in ad valorem terms.

This would make the purchaser price:

$$(B.39) \quad P_1^D = P_1^S + t_c P_1^S + t_s P_1^S = (1 + t_c + t_s) P_1^S$$

In the absence of externalities, an increase in a State tax, in isolation from the corresponding Commonwealth tax, will cause a efficiency loss similar to that discussed earlier. Yet, the reduction in output caused by the increase in the State tax will increase the size of the efficiency loss attributable to the Commonwealth tax, by reducing the amount of revenue that the Commonwealth collects. This raises an important question for the MXSB calculation. Is the marginal increase in the State tax designed to raise an extra dollar of State or aggregate tax revenue (State plus Commonwealth)? As this paper looks at State tax reform, it therefore assumes that the tax increase is designed to raise an additional dollar of State revenue. While the loss in Commonwealth revenue is not taken into account in assessing the change in tax revenue, it is, however, included in the calculation of the change in the efficiency loss.

In terms of calculating the MXSB in the presence of Commonwealth taxes, this paper uses the change in the cumulative efficiency loss of both State and Commonwealth taxes. The size of the change in the efficiency loss will depend on the size of the combined State and Commonwealth tax wedge ($t = t_c + t_s$). Thus, the change in efficiency loss can be denoted by:

$$(B.40) \quad \frac{dDWL}{dt_s} = - \frac{t_c + t_s}{1 + \alpha(t_c + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

The change in the tax revenue, however, will only depend on the State tax rate (t_s). The change in the tax rate occurs about the pre-marginal increase in price, that is, about P_1^D . This makes the change in State tax revenue:

$$(B.41) \quad \frac{dT}{dt_s} = Q_1 + \frac{t_s}{1 + \alpha(t_c + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

Equations (B.40) and (B.41) imply that the MXSB of a State tax, taking the Commonwealth tax as given, is:

$$(B.42) \quad MXSB_{EV} = \frac{\frac{dDWL}{dt_s}}{\frac{dT}{dt_s}} = - \frac{\frac{t_c + t_s}{1 + \alpha(t_c + t_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}{1 + \frac{t_s}{1 + \alpha(t_c + t_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}$$

The above discussion can be extended to the case where more than one Commonwealth tax exists. The Commonwealth, for example, levies *income tax*, *fringe benefits tax* and, in the case where shares or superannuation forms part of the remuneration package, *capital gains tax* on labour income received by individuals.⁷ In this case, the Commonwealth tax (t_c) can be thought of as:

$$(B.43) \quad t_c = t_{c1} + t_{c2} + \dots + t_{cn}$$

where:

t_{ci} denotes Commonwealth tax i , where $i = 1, 2, \dots, n$.

Multiplicative State and Commonwealth taxes

Some taxes, most notably *franchise fees*, are levied on a tax base that includes numerous Commonwealth taxes — *wholesale sales tax*, *customs* and *excise duties*. This effectively gives rise to a cascading of taxes, whereby the States tax the amount paid in Commonwealth tax. This paper uses the term multiplicative taxes to describe State taxes levied on top of the Commonwealth taxes.

To simplify matters, all of the multiplicative taxes considered in this paper (the *franchise fees* on tobacco and liquor) are assumed to have a horizontal supply curve. In this case, $\alpha = 1$. This effectively eliminates α from equation (B.42) and the following analysis implicitly takes this into account. The term α , therefore, has not been included in the following equations. If the supply curve had a positive slope, the α would have to be taken into account.

If both the State and Commonwealth taxes are expressed in ad valorem terms, the purchaser price (P_1^D) can be thought of as:

$$(B.44) \quad P_1^D = (1 + t_s)(1 + t_c)P_1^S$$

Expanding equation (B.44) out gives:

$$(B.45) \quad P_1^D = (1 + t_c)P_1^S + t_s P_1^S + t_c t_s P_1^S$$

The difference between equations (B.39) and (B.45), the term $t_c t_s P_1^S$, reflects the cascading of State taxes on Commonwealth taxes. After normalising about P_1^S , equation (B.45) becomes:

$$(B.46) \quad P_1^D = 1 + t_c + t_s + t_c t_s$$

⁷ A number of other lesser Commonwealth taxes may also apply (eg. dividend withholding tax and superannuation taxation).

The change in the efficiency loss will depend on the size of the overall tax wedge ($P_1^D - P_1^S = t_c + t_s + t_c t_s = t_c + (1 + t_c)t_s$), and not just the State tax wedge ($(1 + t_c)t_s$).

The change in the efficiency loss will still be evaluated about the normalised P_1^D . Thus, the change in the efficiency loss can be expressed as:

$$(B.47) \quad \frac{dDWL}{dt_s} = \frac{t_c + (1 + t_c)t_s}{(1 + t_c)(1 + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}$$

The change in State tax revenue will still depend only on the change in t_s occurring about the pre-marginal increase in price (P_1^D). Thus, the change in State tax revenue is:

$$(B.48) \quad \frac{dT}{dt_s} = Q_1 + \frac{(1 + t_c)t_s}{(1 + t_c)(1 + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}$$

$$(B.49) \quad \frac{dT}{dt_s} = Q_1 + \frac{t_s}{(1 + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}$$

Equations (B.47) and (B.49) imply that the MXSB of a State tax, taking the Commonwealth tax as given, is:

$$(B.50) \quad MXSB_{EV} = \frac{\frac{dDWL}{dt_s}}{\frac{dT}{dt_s}} = - \frac{\frac{t_c + (1 + t_c)t_s}{(1 + t_c)(1 + t_s)} \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}}{1 + \frac{t_s}{(1 + t_s)} \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}}$$

The main implication for calculating the MXSB is that the size of tax wedge, and the resulting efficiency loss, will be bigger than if the taxes are levied on the same base, all other things being equal.

Commonwealth tax deductibility

The ‘double taxation’ effects appear to be compounded by the fact that certain State taxes (eg. *payroll tax* and *land tax*) can be deducted from Commonwealth *income tax*. This effectively reduces the amount of Commonwealth *income tax* paid by an amount equal to the company’s effective *income tax* rate (t_c) multiplied by the amount paid in those State taxes that can be deducted. On the surface, this would appear to benefit individuals who are remunerated through shares, as the company is able to pay out a higher dividend than if it were not able to deduct payments of these State taxes. However, this beneficial effect is nullified through the dividend imputation system when the dividend is paid to

the shareholders. Under dividend imputation, the higher dividend would be accompanied by a corresponding lower imputation credit, as the company has paid less tax on the dividend owing to the deduction, so that the grossed-up dividend on which the shareholder pays tax remains unchanged and, hence, so does the amount effectively paid in tax.⁸ Thus, this advantage is more illusory than real and is not considered in the analysis that follows.

Non-ad valorem taxes

The above discussion is predicated on the assumption that the State and Commonwealth taxes are expressed as a percentage of price (ad valorem taxes). In reality, a number of State and Commonwealth taxes are not levied in this way. For example, *franchise fees* on petrol were levied on a cents per litre (or equivalent) basis and the Commonwealth *excise duty* on liquor is levied on the alcohol content. In most cases, the unit of taxation is not consistent between State and Commonwealth taxes for the same commodity. This is particularly a problem for tobacco and liquor, where the State taxes were expressed as an ad valorem tax, while the Commonwealth excise duties were levied respectively on the tobacco and alcohol content. Thus, in the case of alcohol, the MXSB of raising an additional dollar through *franchise fees* would vary depending on the price of the alcoholic beverage (production cost plus mark-ups) and the alcohol content. In theory, the MXSB from taxing whisky could be different from that for gin. For these non-ad valorem taxes, it is possible in theory to calculate the MXSB, if the tax bases and relationships between taxes are known. In the case of liquor, you would need to know how the alcohol content, price and tax rates varied for each form of alcohol. An alternative way of calculating the MXSB is by calculating an ad valorem equivalent tax rate from the published data. The resulting tax rate would, however, represent an AETR, owing to the aggregated nature of the data, and would, therefore, not be representative of the effective statutory tax rates needed to calculate the true MXSB. Despite this, this paper uses the AETRs to calculate the MXSB for those taxes not levied on an ad valorem basis, to give an indication of the magnitudes involved.

⁸ This presupposes that the company has a 100 per cent dividend payout ration (DPR). If the DPR were less than 100 per cent, the shareholder would benefit by an appreciation in the share price that would be subject to *capital gains tax*. Owing to the way *capital gains tax* works and timing differences in when the tax is payable, the amount of tax paid may not be the same as if the DPR were 100 per cent. This effect is ignored to simplify the analysis.

Externalities

A number of the activities subject to State and Commonwealth taxation produce effects external to those undertaking the taxed activity (externalities). These externalities may be beneficial or detrimental, depending on the activity. Drinking alcohol, for example, may reduce stress and heart disease. It may also contribute to car accidents and cause other medical problems, if consumed in excessive quantities. The bulk of the externalities quantified in the empirical literature, however, relate to detrimental, rather than beneficial, effects. Therefore, the MXSBs calculated in this paper focus solely on the detrimental effects, although the possible beneficial externalities are considered qualitatively.⁹

As discussed in Chapter 3, the presence of externalities imposes additional efficiency considerations that need to be taken into account when assessing the MXSB. If the tax reduces activity, it may, up to a point, improve efficiency by reducing the adverse external effects. However, beyond a certain level, the tax will reduce efficiency by excessively discouraging activity, where the social benefits (in this case, those to the individual undertaking the activity) exceed the social costs (private plus external). A Pigouvian tax would, at the margin, equate the social benefits with the social costs, thereby maximising overall well-being.

This raises questions about what is the best way to address these externalities and who should address them. Which level of government should address the externality — Commonwealth, State or local government? Should the States address those externalities that occur solely within their boundaries, even if they are confined to a specific local area or, alternatively, have national implications? In addition, taxation is not the only instrument open to government to deal with externalities. Many other instruments exist (eg. congestion charges, access pricing or direct regulation). To assess which, if any of these, is the most appropriate, three questions need to be considered. First, how effectively does the chosen policy instrument address the externality? Second, does it do so in the most efficient manner possible? Third, are there adverse equity effects in doing so? Albon (1998), for example, raises strong arguments against using taxation to address many of the externalities associated with smoking. Given the legal restrictions applying to State and local governments, does the level of government best placed to deal with the externality have the legal power to do so? The answers to these questions are important, but are beyond the scope of this paper.

⁹ This makes the marginal social benefit (MSB) in Box B.2 below the same as the marginal private benefit (MPB).

Some of these concerns can be overcome by considering the effects from a national perspective, as Albon (1998) does in assessing the MXSB of tobacco taxation. He looks at the MXSB from raising aggregate State and Commonwealth tobacco taxes by a dollar, taking into account the Australia-wide health costs. The advantage of this approach is that the externalities do not have to be apportioned between the State and Commonwealth governments. The approach is suited to cases where State and Commonwealth governments coordinate their taxation policy. It recognises the interlinkages between State and Commonwealth actions, both in terms of revenue and the externalities that they are responsible for. This approach, however, masks the effect of the States or Commonwealth acting independently.

As this paper focuses on varying the mix of State taxes, it seeks to ascertain the MXSB of State governments raising an additional dollar of tax revenue, independently of the actions of the Commonwealth. Therefore, the externalities have to be apportioned between State and Commonwealth governments. This paper subjectively assigns the various externalities between the State and Commonwealth governments on the basis of where the externality primarily occurs or who is responsible for undertaking the resulting government expenditure. This paper does not, however, attempt to assess whether the tax being considered is the most efficient way of addressing the externality. The paper merely seeks to ascertain whether the revenue from State and local government taxes is sufficient to cover the externalities they are most likely to be responsible for.

The State tax can, therefore, be thought of as consisting of two components — a Pigouvian tax to correct for the externalities that the State is responsible for, and a residual tax designed to raise revenue. The Commonwealth tax can similarly be thought of as consisting of two comparable components.

Thus, the overall size of the externality (X) can be denoted in dollar terms as:

$$(B.51) \quad X = X_c + X_s$$

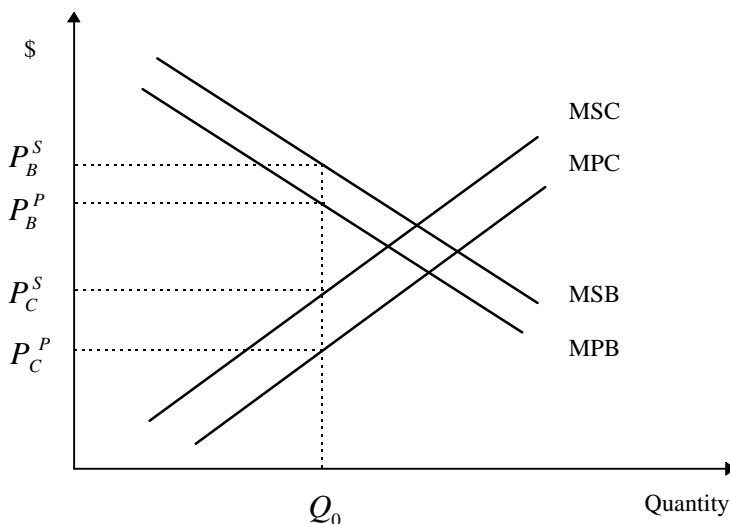
where:

X_c denotes the Commonwealth's externalities, expressed in absolute dollar terms; and

X_s denotes the States' externalities, expressed in absolute dollar terms.

Box B.2: Measuring efficiency losses in the presence of externalities

Certain activities may produce external effects that impact on the wider community that may not be taken into account when an individual decides how much to consume. A failure to take these external effects into account may lead to an inefficient allocation of society's resources.



In the absence of any external effects, the marginal deadweight loss of a tax is evaluated about the wedge driven between the cost to the individual and the benefit they derive. If the cost to the individual is denoted by the supply curve MPC (marginal private cost) and the benefit is indicated by their demand curve MPB (marginal private benefit), the distance $P_B^P - P_C^P$ represents the tax wedge, prior to a marginal change. The marginal deadweight loss would be evaluated about the initial starting point P_C^P .

Now suppose that the taxed activity produces external benefits and external costs. The total benefit to society MSB (marginal social benefit) represents the sum of the private benefit (MPB) and the external benefits. The total cost to society MSC (marginal social cost) represents the sum of the private cost (MPC) and the external costs. The distance $P_B^P - P_C^P$ still represents the tax wedge. The efficiency loss to society is evaluated as the distance between the marginal social benefit (MSB) and marginal social cost (MSC), that is, the distance $P_B^S - P_C^S$, and is evaluated about the initial cost to society P_C^S .

When these external effects are taken into account, the marginal deadweight loss may be higher or lower than if they were omitted. If the external costs exceed the external benefits, as is the case for the taxes considered in this paper, the marginal deadweight loss is lower when these external effects are taken into account.

The reason why the Commonwealth has to be considered when this paper focuses on State taxes is that actions of the States will impact directly on the Commonwealth. An increase in a State tax will, to some extent, reduce activity subject to Commonwealth taxation, having implications for Commonwealth tax revenue and the externalities that fall under the Commonwealth's jurisdiction. While the resulting change in Commonwealth tax revenue has not been included in the change in tax revenue used in the denominator of the MXSB calculation, it, and the externalities under the Commonwealth's control, have been included in the calculation of the change in the efficiency loss, as they also represent changes in aggregate well-being. If the effects on the Commonwealth were not taken into account when assessing the efficiency loss, the MXSB would understate the true cost incurred by society in the raising the additional dollar of State revenue.

Externalities are typically thought of as creating a wedge between the cost to purchasers and the cost to society (see the figure in Box B.2).¹⁰ This is essentially similar to the wedge created by the presence of pre-existing Commonwealth taxes.

Albon (1998) recognises that external effects have efficiency implications. Instead of evaluating these deadweight losses about the private costs, they should be evaluated about the social cost (private plus external cost). Albon, however, does not adjust the tax rate to reflect the social, as opposed to private, benefit. In essence, he adjusts the denominator of the marginal excess burden calculation to take account of these external effects, but not the numerator — the tax rate.

Where these external effects are significant, this paper adjusts that tax rate for the extent of any externality. Since the paper assumes there are no external benefits, the tax rate is reduced by the value of external costs per unit of consumption. This approach yields a lower estimate of the marginal excess burden than the method used by Albon, because of the smaller numerator. Both approaches implicitly assume, in the absence of practical estimates, that the elasticities of the marginal social benefit and cost curves are the same as those for the marginal private benefit and cost curves.

¹⁰ If the externality is constant for a marginal change in the State tax rate, the MSC and MPC curves will be parallel in the region of the tax. This is unlikely to hold for major changes in the tax rate as the size of many of the externalities is likely to change with the level of activity (eg. congestion). In this case, the MSC curve is likely to swivel upwards relative to the MPC curve.

Additive State and Commonwealth taxes (with externalities)

The total State tax revenue can be thought of a Pigouvian tax designed to remedy the State externality and a pure revenue raising component. Therefore, the total State tax revenue can be thought of as:

$$(B.52) \quad T_s = R_s + X_s$$

where:

T_s total State tax revenue; and

R_s State revenue raised in excess of the Pigouvian tax needed to correct for State externalities (ie. the revenue raising component of the tax).

The externality represents the difference between the marginal private and social costs from a State's perspective.

The State tax revenue from the pure revenue raising component of its tax represents the residual of total tax revenue above the size of the externality:

$$(B.53) \quad R_s = T_s - X_s$$

With an additive tax, the total State tax revenue will equal:

$$(B.54) \quad T_s = \bar{t}_s P_1^S Q_1$$

$$\bar{t}_s = \frac{T_s}{P_1^S Q_1}$$

where:

\bar{t}_s denotes the AETR, expressed in ad valorem terms; and

$P_1^S Q_1$ denotes the State tax base.

Likewise, the State externality can be expressed in an ad valorem equivalent manner as a proportion of the overall State tax base:

$$(B.55) \quad X_s = x_s P_1^S Q_1$$

$$x_s = \frac{X_s}{P_1^S Q_1}$$

Now define the revenue raising component in ad valorem terms as:

$$(B.56) \quad r_s = \bar{t}_s - x_s$$

As \bar{t}_s and x_s are expressed as percentages of the State tax base, r_s will be also.

However, the social cost excludes both the State and Commonwealth externality. Therefore, expressing the State revenue raising component as a percentage of the overall social cost:

$$(B.57) \quad \frac{r_s}{(1 + x_c + x_s)}$$

The efficiency loss in the presence of State and Commonwealth taxes and in the presence of externalities will depend on the difference between the combined tax revenue ($t = t_c + t_s$) less the total adverse external costs incurred ($x = x_c + x_s$). As we have normalised about the pre-tax price (so $P_1^S = 1$), the change in efficiency loss occurs about the pre-marginal tax increase purchaser price:

$$(B.58) \quad P_1^D = 1 + t_c + t_s$$

The change in the efficiency loss brought about by a change in the State revenue raising component is therefore:

$$(B.59) \quad \frac{dDWL}{dr_s} = - \frac{(t_c + t_s) - (x_c + x_s)}{(1 + t_c + t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{\epsilon_S - \epsilon_D^H}$$

For a marginal change in the tax rate, the size of the externality is unlikely to change by much and is, therefore, viewed as being constant over the range under consideration. Therefore, the change in State tax revenue will depend solely on the change in r_s and will be given by:

$$(B.60) \quad \frac{dT}{dr_s} = Q_1 + \frac{r_s}{(1 + x_c + x_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

Equations (B.59) and (B.60) imply that the MXSB for additive taxes equals:

$$(B.61) \quad MXSB_{EV} = \frac{\frac{dDWL}{dr_s}}{\frac{dT}{dr_s}} = - \frac{\frac{(t_c + t_s) - (x_c + x_s)}{(1 + t_c + t_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}{1 + \frac{(t_s - x_s)}{(1 + x_c + x_s)(1 + t_c + t_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}$$

Multiplicative State and Commonwealth taxes (with externalities)

Under a multiplicative tax, the value of expenditure equals:

$$(1 + t_c)(1 + t_s)P_1^S Q_1 = P_1^D Q_1$$

and the normalised purchaser price equals:

$$(B.62) \quad P_1^D = (1+t_c)(1+t_s)$$

As in the additive case, let the total State tax revenue, externality and revenue raising component be expressed as:

$$(B.63) \quad T_s = R_s + X_s \text{ and } R_s = T_s - X_s$$

With multiplicative taxes, the tax base is no longer the same as with additive taxes. The State tax base is now the post-Commonwealth tax level of expenditure:

$$(1+t_c)P_1^S Q_1$$

The total amount of State tax revenue (T_s) represents:

$$T_s = \bar{t}_s(1+t_c)P_1^S Q_1$$

$$(B.64) \quad \bar{t}_s = \frac{T_s}{(1+t_c)P_1^S Q_1}$$

where:

\bar{t}_s denotes the AETR, expressed in ad valorem terms.

Likewise, the State externality can be expressed in an ad valorem equivalent manner as:

$$X_s = x_s(1+t_c)P_1^S Q_1$$

$$(B.65) \quad x_s = \frac{X_s}{(1+t_c)P_1^S Q_1}$$

As before, let:

$$r_s = \bar{t}_s - x_s$$

As \bar{t}_s and x_s are expressed as percentages of the post-Commonwealth State tax base, r_s will be also.

However, the social cost excludes the State externality. Therefore, expressing the State revenue raising component as a percentage of the overall social cost:

$$(B.66) \quad \frac{r_s}{(1+x_s)}$$

However, this abstracts from the cascading of State and Commonwealth taxes. The State ad valorem tax (t_s) and externality rates (x_s) are expressed as proportions of the post-Commonwealth tax base, while the Commonwealth

taxes are expressed as percentages of the pre-Commonwealth tax bases. Converting the State tax and externality rates to a proportion of the pre-Commonwealth tax base gives:

$$(1+t_c)t_s \text{ and } (1+t_c)x_s$$

This makes the revenue raising component:

$$(B.67) \quad (1+t_c)\frac{r_s}{(1+x_s)}$$

With only one level of government, the change in efficiency represents the total tax revenue raised in excess of the externality. With two levels of government, the total tax revenue represents the sum of the Commonwealth and State taxes:

$$(B.68) \quad t_c + (1+t_c)t_s$$

Likewise, the total externality equals:

$$(B.69) \quad x_c + (1+t_c)x_s$$

The net gain (or loss) to society with two levels of government and externalities that occurs in response to a change in the revenue raising component (r_s) will depend on the overall tax rate less the total externalities:

$$(B.70) \quad t_c + (1+t_c)t_s - x_c - (1+t_c)x_s$$

The change in demand indicated by the elasticity of demand occurs about P_1^D .

Thus, the change in the efficiency loss can be expressed as:

$$(B.71) \quad \frac{dDWL}{dr_s} = -\frac{t_c + (1+t_c)t_s - x_c - (1+t_c)x_s}{(1+t_c)(1+t_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

The change in the State tax revenue still depends on the change in r_s evaluated about the social cost. The change in State tax revenue will be:

$$(B.72) \quad \frac{dT}{dr_s} = Q_1 + \frac{(1+t_c)(t_s - x_s)}{(1+t_c)(1+t_s)(1+x_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

$$(B.73) \quad \frac{dT}{dr_s} = Q_1 + \frac{(t_s - x_s)}{(1+t_s)(1+x_s)} Q_1 \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}$$

This, therefore, gives rise to the measure of the MXSB used in this paper to assess the efficiency of State taxation in the presence of Commonwealth taxes and externalities:

$$(B.74) \quad MXSB_{EV} = \frac{\frac{dDWL}{dr_s}}{\frac{dT}{dr_s}} = - \frac{\frac{t_c + (1+t_c)t_s - x_c - (1+t_c)x_s}{(1+t_c)(1+t_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}{1 + \frac{(t_s - x_s)}{(1+t_s)(1+x_s)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}$$

Reconciliation with other studies

On the surface, the formulae derived in this appendix appear different from those used in Albon (1997a, p. 274) and Findlay and Jones (1982, p. 256).¹¹ In part, these differences reflect modifications made to incorporate taxes levied by different jurisdictions and the presence of externalities. Despite this, the approach used here can be reconciled with the approaches used in these studies. To illustrate this, the measure of MXSB used here can be adapted to measure the combined effect of additive Commonwealth and State taxes levied in the absence of externalities. Adapting equation (B.33) to reflect this gives:

$$(B.75) \quad MXSB_{EV} = - \frac{\frac{t}{(1+\alpha)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}{1 + \frac{t}{(1+\alpha)} \frac{\epsilon_D^H \epsilon_S}{(\epsilon_S - \epsilon_D^H)}}$$

Reconciliation with Albon (1997a)

Albon assumes a horizontal supply curve, whereas the approach used in this paper allows for the possibility of an upward sloping supply curve. That is, Albon assumes that the elasticity of supply is infinite (ie. $\epsilon_s = \infty$). Therefore, the formula used here needs to be modified so that the supply curve is horizontal. Using L'Hopital's rule:

$$\lim_{\epsilon_s \rightarrow \infty} \alpha = \lim_{\epsilon_s \rightarrow \infty} \frac{\epsilon_s}{\epsilon_s - \epsilon_D^H} = \frac{1}{1} = 1 \quad \text{and} \quad \lim_{\epsilon_s \rightarrow \infty} \frac{\epsilon_s \epsilon_D^H}{\epsilon_s - \epsilon_D^H} = \lim_{\epsilon_s \rightarrow \infty} \frac{\epsilon_D^H}{1} = \epsilon_D^H$$

Substituting these into equation (B.75) yields:

$$(B.76) \quad MXSB_{EV} = - \frac{\frac{t}{(1+t)} \epsilon_D^H}{1 + \frac{t}{(1+t)} \epsilon_D^H}$$

¹¹ Campbell and Bond (1997) use the same methodology as Findlay and Jones.

Let $P = 1 + t$, as Albon does. This gives:

$$(B.77) \quad MXSB_{EV} = -\frac{\frac{t}{P} \varepsilon_D^H}{1 + \frac{t}{P} \varepsilon_D^H} = MXSB^{Albon}$$

which is equal to Albon's formula shown in equation (B.1).

Reconciliation with Findlay and Jones

In estimating the MXSB of *income tax*, Findlay and Jones assume a horizontal demand curve, whereas the approach used in this paper allows for the possibility of a downward sloping demand curve. That is, they assume that the elasticity of demand is infinite (ie. $\varepsilon_D = \infty$). Therefore, the formula used here needs to be modified so that the demand curve is horizontal. Using L'Hopital's rule:

$$(B.78) \quad \lim_{\varepsilon_D \rightarrow \infty} \frac{\varepsilon_S \varepsilon_D^H}{\varepsilon_S - \varepsilon_D^H} = \lim_{\varepsilon_D \rightarrow \infty} \frac{\varepsilon_S}{-1} = -\varepsilon_S$$

While direct estimation gives:

$$(B.79) \quad \lim_{\varepsilon_D \rightarrow \infty} \alpha = 0$$

Substituting (B.78) and (B.79) into equation (B.75) yields:

$$(B.80) \quad MXSB_{EV} = \frac{-t(-\varepsilon_S)}{1 + t(-\varepsilon_S)} = \frac{t\varepsilon_S}{1 - t\varepsilon_S}$$

Findlay and Jones express their tax rate as a percentage of producer prices, whereas the tax rates used in equation (B.75) are expressed as a share of purchaser prices. Using equation (B.37) to convert between the two gives:

$$MXSB_{EV} = \frac{\frac{m}{(1-m)} \varepsilon_S}{1 - \frac{m}{(1-m)} \varepsilon_S} = \frac{m\varepsilon_S}{(1-m) - m\varepsilon_S}$$

$$MXSB_{EV} = \frac{m\varepsilon_S}{1 - m - m\varepsilon_S} = \frac{m\varepsilon_S}{1 - m(1 + \varepsilon_S)} = MXSB^{F\&J}$$

which is equal to the formula used by Findlay and Jones.

REFERENCES

- ABARE 1993, *Energy demand and supply projections, Australia, 1992–93 to 2004–05*, Research Report 93.2, February.
- Abdulla, A. and Duffus, G. 1988, *The Demand for Wine in Australia*, ABARE paper presented at the 1988 Australian Economics Congress, ANU, Canberra, 28 August–2 September.
- ABS 1321.0, *Small Business in Australia*, AGPS, Canberra.
- 3201.0, *Estimated Resident Population by Sex and Age: States and Territories of Australia*, AGPS, Canberra.
- 4315.0, *Apparent Consumption of Selected Foodstuffs, 1995–96*, AGPS, Canberra.
- 5209.0, *Australian National Accounts Input-Output Tables 1993–94*, AGPS, Canberra.
- 5220.0, *Australian National Accounts: State Accounts 1995–96*, AGPS, Canberra.
- 5241.0, *Australian National Accounts: National Balance Sheets 30 June 1995*, AGPS, Canberra.
- 5506.0, *Taxation Revenue, Australia*, AGPS, Canberra.
- 5514.0, *Government Finance Statistics — Comments, Sources and Methods, 1994*, AGPS, Canberra.
- 6348.0, *Labour Costs Australia*, AGPS, Canberra.
- 6401.0, *Consumer Price Index*, AGPS, Canberra.
- 6403.0, *Average Retail Prices of Selected Items, Eight Capital Cities*, AGPS, Canberra.
- 6523.0, *1990 Survey of Income and Housing Costs and Amenities, Australia, Income Units*, AGPS, Canberra.
- 6535.0, *Household Expenditure Survey, Australia: Detailed Expenditure Items*, AGPS, Canberra.
- Access Economics 1995, *The Distribution of Federal/State Financial Powers*, Study commissioned by the WA Ministry of the Premier and Cabinet, September.

- ACT Government 1996a, *Budget Speech*, Budget Paper No. 1, ACT Government, Canberra, 24 September.
- 1996b, *Land Tax on Residential Properties, 1996–97*, ACT Revenue Office, Canberra.
- 1997a, *Budget Speech*, Budget Paper No. 1, ACT Government, Canberra, 6 May.
- 1997b, *Budget Overview, 1997–98*, Budget Paper No. 3, ACT Government, Canberra, 6 May.
- 1997c, *Budget Estimates, 1997–98*, Volume 2, Budget Paper No. 4, ACT Government, Canberra, 6 May.
- ACT Office of Financial Management 1996, *Annual Report, 1995–96* Commissioner for ACT Revenue, Chief Minister’s Department, ACT Government Printer, Canberra.
- Aitken, M.J. and Swan, P.L. 1997a, *The Impact of a Transactions Tax on Investors: The Case of Australia’s Stamp Duty Reduction*, mimeo, University of Sydney and the Securities Research Centre of Asia Pacific, Sydney.
- 1997b, ‘How much did we gain from the halving of stamp duty?’, *ASX Perspective*, Second Quarter, ASX, Sydney, pp. 4–10.
- Albon, R. 1996, *An Overview of Australia’s Taxation Structure*, Paper commissioned by the Industry Commission, AGPS, Canberra, June.
- 1997a, ‘The efficiency of state taxation’, *Australian Economic Review*, 30(3), pp. 273–287.
- 1997b, *Submission No. 179*, Submission to the IC Automotive inquiry, Report No. 58, 17 March.
- 1998, *Efficient Tobacco Taxation: Ramsey and Pigouvian Considerations*, mimeo, ANU, Canberra, January.
- Albon, R., Findlay, C. and Piggott, J. 1984, ‘The welfare costs of owner-occupier housing subsidies: inflation, tax treatment and interest rate regulation’, *Australian Economic Papers*, 23(43), pp. 206–218.
- Alchin 1992, *An Economic Assessment of the Role of Advertising in Cigarette Consumption in Australia*, University of Western Sydney, Nepean, Department of Economics, Working Paper No. WP92/01, January.

-
- Ampol 1997, *Petrol Prices, April 1997*, Ampol, [<http://www.ampol.com.au>], 26 August.
- Anas, A. 1987, *Modeling in Urban and Regional Economics*, Harwood Academic Publishers GmbH, United Kingdom.
- Apps, P. and Savage, E. 1989, 'Labour supply, welfare rankings and the measurement of inequality', *Journal of Public Economics*, 39, pp. 335–364.
- Ashton, T. and St John, S. 1985, *Insights into Excises, A Focus on Alcohol, Tobacco and Motor Fuel Taxation*, Victoria University Press for the Institute of Policy Studies, Wellington, New Zealand.
- ASX 1997a, *The 1997 Market Report*, ASX, Sydney.
- 1997b, *ASX Annual Report 1997*, ASX, Sydney.
- 1997c, *About ASX and Australia: trading and settlement — who are the traders?*, [<http://www.asx.com.au>], 20 November.
- 1997d, *1997 Australian Share Ownership Survey*, ASX, Sydney.
- ATRF 1989, *State Taxation: Assessing the New South Wales Tax Taskforce Report*, ATRF, Sydney.
- Auerbach, A.J. 1985, 'The theory of excess burden and optimal taxation', Chapter 2 in Auerbach, A.J. and Feldstein, M. (eds), *Handbook of Public Economics*, Volume 1, North Holland, Amsterdam, pp. 61–127.
- Beesley, M.E. and Kemp, M.A. 1987, 'Urban transportation', Chapter 26 in Mills, E.S. (ed), *Handbook of Urban and Regional Economics*, Volume 2, Elsevier Science Publishers BV, Netherlands, pp. 1023–1052.
- Bewley, R.A. 1982, 'On the functional form of engel curves: The Australian Household Expenditure Survey 1975–76', *Economic Record*, 58(60), pp. 82–91.
- 1991, *The Demand for Tobacco in Australia: An Analysis of the 1988–89 Household Expenditure Study*, Economic Studies and Strategies Unit, Price Waterhouse, Canberra, November.
- 1993, *An Econometric Analysis of the Impact of Price on Market Share of Three Major Components of Cigarette Demand*, mimeo, University of New South Wales, Kensington.
- BIE 1985, *Implications of Abolishing Payroll Tax*, Submission to EPAC, Bureau of Industry Economics, Canberra, June (revised).

- Bourassa, S.C. 1993, *A Model of Housing Tenure Choice in Australia*, Working Paper No. 39, Urban Research Program, ANU, Canberra, August.
- Brain, P. and Schuyers, G.S. 1980, *Energy and the Australian Economy*, Institute of Applied Economic and Social Research, University of Melbourne, Melbourne (manuscript).
- Brennan, H.G. 1977, 'Criteria for state and local taxes', Chapter 1 in Matthews, R.L. (ed), *State and Local Taxation*, ANU Press, Canberra, pp. 1–9.
- Brennan, G. and Buchanan, J. 1983, 'Normative tax theory for a federal polity: some public choice preliminaries', Chapter 3 in McLure, C.E. Jr (ed), *Tax Assignment in Federal Countries*, ANU Press, Canberra, pp. 52–65.
- Brisbane City Council 1996, *Resolution of Rates and Charges*, Budget Document, 1996–97, Rates Management, Brisbane City Council.
- Britten-Jones, M. and McKibbin, W.J. 1989, *Tax Policy and Housing Investment in Australia*, RBA Research Discussion Paper No. 8907, RBA, Sydney.
- Brown, C.V. and Jackson, P.M. 1990, *Public Sector Economics*, 4th edition, Blackwell Publishers, Oxford.
- Browning, E.K. 1976, 'The Marginal Cost of Public Funds', *Journal of Political Economy*, 84(2), pp. 283–298.
- BTCE 1997a, *Public Road Related Expenditure and Revenue in Australia*, Information Sheet 9, BTCE, Canberra, May.
- 1997b, *Public Road Related Expenditure and Revenue in Australia*, Unpublished data, BTCE, Canberra.
- Buchanan, B. 1989, 'The harmonisation of state taxes: a New South Wales view', Chapter 7 in ATRF, *State Taxation: Assessing the New South Wales Tax Taskforce Report*, ATRF, Sydney, pp. 59–67.
- Business Victoria 1997, *Services for Victorian Business*, Department of State Development, [<http://www.business.vic.gov.au/sfbinfo>], 24 November.
- Campbell, D. 1985, *The Economic Effects of Payroll Tax*, Council Paper No. 2, EPAC, Canberra, October.
- Campbell, H.F. and Bond, K.A. 1997, 'The cost of public funds in Australia', *Economic Record*, 73(220), pp. 22–34.

-
- Campbell, J.K., McCrossin, R.G., Coates, A.W., Mallyon, J.S., Halkerston, K.W. and Argy, F. 1981, *Australian Financial System: Final Report of the Committee of Inquiry*, AGPS, Canberra.
- CIE 1995, *Technical Appendix: Generation of Demand Parameters for an Economy-wide Model of the Grape and Wine Industry*, Prepared for the Commonwealth Government Inquiry into the Wine Grape and Wine Industry, CIE, Canberra, February.
- Challen, D. 1984, *The Wages-Employment Relationship in Australian Macroeconomic Models*, Bureau of Labour Market Research Monograph Series No. 2, AGPS, Canberra.
- Chapman, R. and Vincent, D. 1985, *Payroll Taxes: An Investigation of the Macroeconomic and Industry-level Effects of their Removal*, Working Paper No. 75, Centre for Applied Economic and Policy Research, University of New South Wales, Kensington.
- 1986, 'Payroll taxes in Australia, Part I: background and theoretical analysis', *Economic Analysis & Policy*, 16(2), pp. 121–135.
- 1987, 'Payroll taxes in Australia, Part II: an economy-wide approach to estimating the effects of their removal', *Economic Analysis & Policy*, 17(2), pp. 149–177.
- Chisholm, A. 1993, 'Indirect taxation, effective tax rates and consumption efficiency', Chapter 12 in Head, J.G. (ed), *Fightback! An Economic Assessment*, Conference Series No. 12, ATRF, Sydney, pp. 309–350.
- Chung, C. and Powell, A. 1987, *Australian Estimates of Working's Model Under Additive Preferences: Estimates of a Consumer Demand System for Use by CGE Modellers and Other Applied Economists*, Impact Project, Preliminary Working Paper No. OP-61, Melbourne.
- Clements, K.W. and Johnson, L.W. 1983, 'The demand for beer, wine and spirits: a system-wide analysis', *Journal of Business*, 56(3), pp. 207–304. Reprinted in Coyne, T.J. (ed) 1985, *Readings in Managerial Economics* 4th edition, Business Publications Inc, Plano, Texas, pp. 127–155.
- Clements, K.W., McLeod, P.B. and Selvanathan, E.A. 1985, *Does Advertising Affect Drinking and Smoking*, Discussion Paper 85.02, Department of Economics, University of Western Australia, Nedlands.
- Clements, K.W. and Selvanathan, S. 1991, *The Economic Determinants of Alcohol Consumption*, Discussion Paper 91.07, Department of Economics, University of Western Australia, Nedlands, May.
-

- Collins, D.J. 1990, 'Competition and harmonisation in state taxation', Chapter 2 in Walsh, C. (ed), *Issues in State Taxation*, Centre for Research on Federal Financial Relations, ANU, Canberra, pp. 19–42.
- Collins, D.J. and Lapsley, H.M. 1991, *Estimating the Economic Costs of Drug Abuse in Australia*, Report prepared for the Commonwealth Department of Community Services and Health, Monograph Series No. 15, National Campaign Against Drug Abuse, AGPS, Canberra.
- 1996, *The social costs of drug abuse in Australia in 1988 and 1992*, Report prepared for the Commonwealth Department of Human Services and Health, Monograph Series No. 30, National Drug Strategy, AGPS, Canberra.
- Commissioner for ACT Revenue 1996, *Annual Report 1995–96*, Office of Financial Management, ACT Chief Minister's Department, Canberra.
- Commonwealth of Australia 1982, *Budget Speech 1982–83*, AGPS, Canberra.
- 1985, *Reform of the Australian Tax System: Draft White Paper*, AGPS, Canberra, June.
- 1990, *Budget Statements 1990–91*, Budget Paper No. 1, AGPS, Canberra, 21 August.
- 1996, *Budget Strategy and Outlook, 1996–97*, Budget Paper No. 1, AGPS, Canberra, 20 August.
- 1997, *Budget Strategy and Outlook, 1997–98*, Budget Paper No. 1, AGPS, Canberra, 13 May.
- Commonwealth Treasury 1981, *The NIF-10 Model of the Australian Economy*, AGPS, Canberra.
- 1996, *Documentation of the Treasury Macroeconomic (TRYM) Model of the Australian Economy*, Modelling Section, Macroeconomic Analysis Branch, Canberra.
- 1997a, *Constitutional Invalidation of State Business Franchise Fees: Temporary Commonwealth Safety Net Arrangements*, Press Release No. 85, 6 August.
- 1997b, *Taxation Arrangements for Tobacco and Tobacco Products*, Press Release No. AT/13, 11 September.
- Coopers and Lybrand 1995, *Investment Location Study: A National Perspective on Location Drivers and Queensland as an Investment Location*, May.

-
- Cornes, R. 1992, *Duality and Modern Economics*, Cambridge University Press, Cambridge.
- Crossman, P., Gschwind, D. and Skinner, A. 1995, *An Old Tax, but a Good Tax, Some Notes on the Suitability of, and Problems with, Payroll Tax*, Paper presented at the Conference on Regional Economic Issues within Australia, University of New South Wales, Kensington, 7–8 December.
- Crowe, M. 1996, *An Assessment of the Impacts of Restructuring Payroll Taxes*, Paper presented to the 25th Annual Conference of Economists, Canberra, 22–26 September.
- Dargay, J. and Gately, D. 1997, ‘The demand for transportation fuels: imperfect price-reversibility’, *Transport Research-B*, 31(1), pp. 71–82.
- Data Resources Inc 1973, *A study of the quarterly demand for gasoline and impacts of alternative gasoline taxes*, Interim Report to the US Environmental Protection Agency and The President’s Council of Environmental Quality.
- Deutsch, R.L., Gates, S.J., Gibson, M.M., Hanley, P.J., Payne, G.L. and Plummer, W.S. 1996, *Australian Tax Handbook 1996*, Law Book Company, North Ryde.
- Diewert, E. and Lawrence, D. 1997, *Dynamic Deadweight Loss of Capital Taxation in Australia*, Paper presented to the International Conference on Public Sector Efficiency, University of New South Wales, Kensington, 25–27 November.
- Dixon, P.B., Parmenter, B.R. and Sutton, J. 1978, ‘Some causes for structural maladjustment in the Australian economy’, *Economic Papers*, 57, pp. 10–28.
- Dixon, P.B., Parmenter, J., Sutton, J. and Vincent, D.P. 1980, *ORANI: A Multisectoral Model of the Australian Economy*, North Holland, Amsterdam.
- Donnelly, W.A. 1979, *A State-Level Monthly Demand for Gasoline Specification: Kentucky*, unpublished.
- 1981, *The Demand for Petrol in Australia*, CRES Working Paper No. R/WP-61, Centre for Resource and Environmental Studies, ANU, Canberra.
- 1982, ‘The regional demand for petrol in Australia’, *Economic Record*, 58(163), pp. 317–327.

- Economic Budget Review Committee 1985, *Report on the Wine Industry in Victoria*, Economic Budget Review Committee, Melbourne.
- E-Law 1993, *Review of Western Australian State Taxes*, Tax Policy Elective, School of Law, Murdoch University, Murdoch.
- English, D.R., Holman, C.D.J., Milne, E., Winter, M.G., Hulse, G.K., Codde, J.P., Bower, C.I., Corti, B., de Klerk, N., Knuiman, M.W., Kurinczuk, G.F. and Ryan, G.A., *The Quantification of Drug-caused Mobility and Mortality in Australia*, 1995 edition, Commonwealth Department of Human Services and Health, Canberra.
- EPAC 1988, *Australia's Medium Term Growth Potential*, EPAC Council Paper No. 30, AGPS, Canberra.
- Findlay, C.C. and Jones, R.L. 1982, 'The marginal cost of Australian income taxation', *Economic Record*, 58, pp. 253–262.
- Fitzgerald, V. 1997, *National Taxation Reform: The Federal Dimension*, Paper presented to the 26th Annual Conference of Economists, Hobart, 29 September.
- Folie, M. 1977, *Consumption in the Australian Retail Market for Petrol*, Paper presented at the 6th Annual Conference of Economists, Hobart.
- Freebairn, J. 1977, 'Do wages matter? Their aggregate effect on employment', *Australian Economic Review*, 39, pp. 25–35.
- 1991, 'Should a consumption tax replace payroll taxes?', *IPA Review*, 44(4), pp. 22–24.
- 1993, 'The GST and payroll tax abolition', Chapter 6 in Head, J.G. (ed), *Fightback! An Economic Assessment*, Conference Series No. 12, ATRF, Sydney, pp. 97–111.
- 1995, 'Reconsidering the marginal welfare cost of taxation', *Economic Record*, 71, pp. 121–131.
- 1997a, 'Taxation reform: some economic issues', *Australian Economic Review*, 30(1), pp. 57–70.
- 1997b, 'Reforming Australia's indirect taxes', *Agenda*, 4(2), pp. 165–176.
- 1997c, *Options and Prospects for Taxation Reform*, Shann Memorial Lecture, University of Western Australia, Nedlands, 2 September.

- George, S.C.S. 1974, *A Study of Supply and Demand Response in the Australian Table Wine Industry, With Particular Reference to the Incidence of the Wine Excise Tax of August 1970*, Department of Agriculture, South Australia.
- Gilchrist, N. 1998, *Can Land Tax Remove Land Values?*, NSW Henry George Foundation, [<http://www.henry-george.org.au/gilchrist.1996.12.html>], 9 April.
- Goldschmidt, P.S. 1990, *Economic Aspects of Alcohol Consumption in Australia*, Discussion Paper No. 90.16, Department of Economics, University of Western Australia, Nedlands, May.
- Goodwin, P.B. 1992, 'A review of new demand elasticities with special reference to short and long run effects of price changes', *Journal of Transport Economics and Policy*, 26(2), pp. 155–169.
- Government of South Australia 1994, *Financial Statement, 1994–95*, Financial Paper No. 1, 25 August.
- 1996, *Financial Statement, 1996–97*, Financial Paper No. 1, 30 May.
- 1997, *Financial Statement, 1997–98*, Financial Paper No. 1, 29 May.
- Government of Western Australia 1996, *Program Statements, 1996–97*, Budget Paper No. 6, Volume 1.
- 1997a, *Budget Statements, 1997–98*, Budget Paper No. 2, 10 April.
- 1997b, *Economic and Fiscal Overview, 1997–98*, Budget Paper No. 3, 10 April.
- Grants Commission (various), *Report on General Revenue Grant Relativities*, AGPS, Canberra.
- 1997b, *Taxation and Other Revenue — Assessments*, Working Papers 1991–92 to 1995–96, Commonwealth Grants Commission, March.
- Grewal, B.S. 1985, 'Criteria for state taxes: a review of theoretical perspectives', Chapter 1 in Matthews, R.L. (ed), *Tax Reform and the States*, ANU Press, Canberra.
- Groenewegen, P. 1984, *Public Finance in Australia, Theory and Practice*, 2nd edition, Prentice-Hall, Sydney.
- Han, S.H. 1996, *The Deadweight Costs of Taxes in Australia*, Paper presented to the 25th Annual Conference of Economists, Canberra, 22–26 September.

- Harberger, A.C. 1990, 'Reflections on uniform taxation', Chapter 5 in Jones, R.W. and Krueger, A.O. (eds), *The Political Economy of International Trade*, Basil Blackwell, Oxford, pp. 75–89.
- Hawtrey, K. 1993, 'Finance taxes in Australia', *Australian Tax Forum*, 10, pp. 251–337.
- Hensher, D.A. and Young, J.L. 1991, *Demand Forecasts and Demand Elasticities for Australian Transport Fuel*, Occasional Paper No 103, BTCE, Canberra.
- Hicks, J.R. 1942, 'Consumer's surplus and index numbers', *Review of Economic Studies*, 9, Summer, pp. 126–137.
- Hobson, P.A.R. 1987, *The Economic Effects of the Property Tax: A Survey*, Discussion Paper No. 317, Economic Council of Canada, Ottawa, February.
- Hopkins, S. 1995, *The Relationship between Tobacco Consumption and Income: An Analysis using Australian Data*, Discussion Paper No. 95.02, Public Sector Research Unit, Curtin University, Perth, June.
- Houthakker, H.S. and Taylor, L.D. 1966, *Consumer Demand in the United States: Analysis and Projections*, Harvard University Press, Cambridge MA.
- Hughes, W.R. 1980, 'Petrol consumption in New Zealand, 1964–79: fixed and time varying parameter results', *New Zealand Economic Papers*, 14, pp. 28–42.
- IC 1991, *Availability of Capital*, Report No. 18, AGPS, Canberra, 9 December.
- 1993a, *Taxation and Financial Policy Impacts on Urban Settlement*, Report No. 30, AGPS, Canberra, 7 April.
- 1993b, *Impediments to Regional Industry Adjustment*, Report No. 35, AGPS, Canberra, 17 December.
- 1994a, *Urban Transport*, Report No. 37, AGPS, Canberra, 15 February.
- 1994b, *The Tobacco Growing and Manufacturing Industries*, Report No. 39, AGPS, Canberra, 29 June.
- 1996a, *State, Territory and Local Government Assistance to Industry*, Draft Report, Industry Commission, Canberra, 18 July.
- 1996b, *Implications for Australia of Firms Locating Offshore*, Report No. 53, AGPS, Canberra, 28 August.

-
- 1996c, *State, Territory and Local Government Assistance to Industry*, Report No. 55, AGPS, Canberra, 29 October.
- Johnson, L.W. 1986, 'Advertising and aggregate demand for cigarettes in Australia', *International Journal of Advertising*, 5, pp. 45–58.
- Johnston, H.N., Campbell R.B. and Simes, R.M. 1978, 'The impact of wages and prices on unemployment', *Economic Papers*, 60, pp. 18–37.
- Kasper, W. 1996, *Competitive Federalism Revisited: Bidding Wars or Getting the Fundamentals Right?*, The Federalism Project Issues Paper No. 5, IPA, Perth.
- Kay, J.A. 1980, 'The deadweight loss from a tax system', *Journal of Public Economics*, 13, pp. 111–119.
- Kelly, J. 1991, *Taxation of Housing in FH-ORANI*, Research Memorandum OA-559, IC, Canberra, May.
- King, M.A. 1983, 'Welfare analysis of tax reform using household data', *Journal of Public Economics*, 21, pp. 183–214.
- Koutsoyannis, A.P. 1963, 'Demand functions for tobacco', *The Manchester School*, 31(1), pp. 1–20.
- Kraft, J. and Rodekohr, M. 1978, 'Regional demand for gasoline: a temporal cross-section specification', *Journal of Regional Science*, 18(1), pp. 45–56.
- 1980, 'A temporal cross section specification of the demand for gasoline using a random coefficient regression model', *Energy*, 5, pp. 1193–1202.
- Labys, W.C. 1976, 'An international comparison of price and income elasticities for wine consumption', *Australian Journal of Agricultural Economics*, 20(1), pp. 33–36.
- Lewis, P.E.T. 1985, 'Substitution between young and adult workers in Australia', *Australian Economic Papers*, 24(44), pp. 115–126.
- Lewis, P.E.T. and Kirby, M.G. 1988, 'A new approach to modelling the effects of incomes policies', *Economic Letters*, 28, pp. 81–95.
- Lewis, P. and Seltzer, A. 1996, 'Labour demand', Chapter 3 in Norris, K. and Wooden, M. (eds), *The Changing Australian Labour Market*, EPAC, Commissioned Paper No. 11, AGPS, Canberra, March, pp. 39–52.
- McLeod, P.B. 1986, 'Advertising bans, tobacco and cigarette consumption', *Economic Letters*, 20, pp. 391–396.
-

- Marshall, A. 1920, *Principles of Economics*, Macmillan, London.
- Martin, W.J. 1997, 'Measuring welfare changes with distortions', Chapter 3 in Francois, J.F. and Reinert, K.A. (eds), *Applied Methods for Trade Policy Analysis: A Handbook*, Cambridge University Press.
- Matthews, R. 1983, 'Tax effectiveness and tax equity in federal countries', Chapter 4 in McLure, C.E. Jr (ed), *Tax Assignment in Federal Countries*, ANU Press, Canberra, pp. 70–86.
- Maynard, D.L. 1988, 'Tax expenditures in New South Wales 1986/87', Chapter 1 in NSW Tax Task Force, *Review of the State Tax System, Volume 2: Commissioned Studies*, Sydney, pp. 1–62.
- Mayo, S. 1981, 'Theory and estimation in the economics of housing demand', *Journal of Urban Economics*, 10, pp. 95–116.
- Mehta, J.S., Narasimham, G.V.L. and Swamy, P.A.V. 1978, 'Estimation of a dynamic demand function for gasoline with different schemes of parameter variation', *Journal of Econometrics*, 7(3), pp. 263–279.
- Mieszkowski, P. 1983, 'Energy policy, taxation of natural resources and fiscal federalism', Chapter 4 in McLure, C.E. Jr (ed), *Tax Assignment in Federal Countries*, ANU Press, Canberra, pp. 129–145.
- Miller, G.L. and Roberts, I.M. 1972, 'The effect of price change on wine sales in Australia', *Quarterly Review of Agricultural Economics*, 25(3), pp. 231–239.
- Murphy, C.W. 1981, *The Market for Alcoholic Beverages: Pricing, Demand and Taxation*, Paper presented to the 10th Conference of Economists, Canberra.
- Musgrave, R.A. 1983, 'Who should tax, where, and what?', Chapter 1 in McLure, C.E. Jr (ed), *Tax Assignment in Federal Countries*, ANU Press, Canberra, pp. 1–19.
- New South Wales 1992, *Budget Information, 1992–93*, Budget Paper No. 2, NSW Treasury, Sydney.
- 1997a, *Budget Information, 1997–98*, Budget Paper No. 2, NSW Treasury, Sydney.
- 1997b, *Budget Estimates, 1997–98, Volume 2*, Budget Paper No. 3, NSW Treasury, Sydney.

-
- Nordhaus, W.D. 1979, 'The demand for energy: an international perspective', in Nordhaus, W.D. (ed), *Proceedings of the Workshop on Energy Demand: May 22–23, 1975*, International Institute for Applied Systems, Laxenburg, Austria.
- Northern Territory of Australia 1996, *Sources of Funds 1996–97*, Budget Paper No. 3, Northern Territory Government Publications, Darwin.
- NPA Queensland 1995, *Coalition Policies — July 1995*, July.
- NSW Department of Finance 1987, *Annual Report 1987*, NSW Department of Finance, Sydney.
- NSW Department of Land and Water Conservation 1998, *Annual Report 1996–97*, NSW Department of Land and Water Conservation, Sydney, January.
- NSW Office of State Revenue (various), *Annual Report*, Office of State Revenue, NSW Treasury, Parramatta.
- 1996b, *Payroll Tax, 1996–1997*, Office of State Revenue, NSW Treasury, Parramatta, September.
- NSW Tax Task Force 1988, *Review of the State Tax System*, Sydney.
- NSW Treasury (various), *Interstate Comparison of Taxes 1996–97*, Research and Information Paper TRP96-5, November.
- NT Commissioner of Taxes 1997, *Pay-roll Tax on Employer Superannuation Contributions*, Information Circular, Commissioner for Taxes, NT Treasury, Darwin, 26 June.
- NT Treasury 1995, *Pay-roll Tax*, Office of the Commissioner of Taxes, NT Treasury, Darwin.
- OECD 1994, *The OECD Jobs Study: Evidence and Explanations: Part II, The Adjustment Potential of the Labour Market*, OECD, Paris.
- Ohsfeldt, R.L. and Smith, B.A. 1990, 'Calculating elasticities from structural parameters in implicit markets', *Journal of Urban Economics*, 27(2), pp. 212–221.
- Ostro, B.D. and Naroff, J.L. 1980, 'Decentralisation and the demand for gasoline', *Land Economics*, 56(2), pp. 169–180.
- Parliament of Tasmania, 1989, *Commissioner of Taxes, Report for the Year 1988–89*, Tasmanian Budget Paper No. 4, Government Printer, Hobart.
- 1996, *Budget Overview, 1996–97*, Budget Paper No. 1, Government Printer, Hobart.
-

- 1997, *Budget Overview, 1997–98*, Budget Paper No. 1, Government Printer, Hobart.
- Parliament of Victoria 1994, *Budget Estimates, 1994–95*, Budget Paper No. 3, Government Printer, Melbourne.
- PC 1996, *Stocktake of Progress in Microeconomic Reform*, AGPS, Canberra.
- Pender, H. 1997, *The Joy of Tax: Australian Tax Design — Directions for Long Term Reform*, Research Study No. 26, ATRF, Sydney.
- Pender, H. and Ross, S. 1994, *Taxation, Regulation and Private Saving in Australia*, EPAC Background Paper No. 36, AGPS, Canberra.
- Petchey, J.D. 1997, *Federalism and Tax Reform*, mimeo, Curtin University of Technology, Perth.
- Phipps, A.J. 1983, 'Australian unemployment: some econometric evidence from industry labour demand functions', *Australian Economic Papers*, 22, pp. 333–344.
- Phlips, L. 1972, 'A dynamic version of the linear expenditure model', *Review of Economics and Statistics*, 54(4), pp. 450–458.
- Pissarides, C. 1987, 'Real wages and unemployment in Australia', *Economica*, 58(229), pp. 35–55.
- PMC 1993, *Restoring Full Employment: A Discussion Paper*, Committee on Employment Opportunities, AGPS, Canberra.
- Pope, J. 1994, 'Compliance costs of taxation: policy implications', *Australian Tax Forum*, 11, pp. 85–121.
- Pope, J., Fayle, R. and Chen, D.L. 1993, *The Compliance Costs of Employment-Related Taxation in Australia*, Research Study No. 19, ATRF, Sydney.
- PSA 1995, *Inquiry into Fees and Charges imposed on Retail Accounts by Banks and Other Financial Institutions and by Retailers on EFTPOS Transactions*, PSA, Melbourne.
- QCCI 1996, *Regulatory Compliance Costs and Other Burdens, A Survey Report*, Queensland Chamber of Commerce and Industry, Brisbane, July/August.
- Queensland Government 1995, *Budget Speech 1995–96*, Budget Paper No. 1, Queensland Treasury, Brisbane, 23 May.
- 1996, *Budget Overview, 1996–97*, Budget Paper No. 2, Queensland Government, Brisbane.

-
- 1997a, *State Strategic Plan, 1997–2007*, Queensland Government, Brisbane.
- 1997b, *Budget Overview, 1997–98*, Budget Paper No. 2, Queensland Government, Brisbane.
- Queensland Office of State Revenue 1997a, *Pay-roll Tax*, Queensland Office of State Revenue, May.
- 1997b, *Grouping Provisions*, Queensland Office of State Revenue, May.
- 1997c, *Pay-roll Tax in Queensland*, Queensland Office of State Revenue, July.
- 1997d, *20 Frequently-Asked Questions, Pay-roll Tax in Queensland*, Queensland Office of State Revenue, July.
- 1997e, *Pay-roll Tax Information Bulletin*, Bulletin No. 2, Queensland Office of State Revenue, November.
- Ramsey, F.P. 1927, 'A contribution to the theory of taxation', *Economic Journal*, 13, pp. 277–297.
- Ramsey, J., Rasche, R. and Allen, B. 1975, 'An analysis of the private and commercial demand for gasoline', *Review of Economics and Statistics*, 57(4), pp. 502–507.
- RBA 1996a, 'Cheques and the payments system', *Reserve Bank of Australia Bulletin*, RBA, Sydney, October, pp. 26–31.
- 1996b, *Reserve Bank of Australia Bulletin*, RBA, Sydney, December.
- Reece, B.F. 1992, *State Land Taxation: A Critical Review*, Research Study No. 15, ATRF, Sydney.
- Revesz, J. and Lattimore, R. 1997, *Small Business Employment*, Staff Information Paper, IC, Canberra, August.
- Rhodes, R.A.W. 1992, 'The Europeanisation of sub-central government: the case of the United Kingdom', in Part 2 of Fletcher, C. and Walsh, C. (eds), *The Impact of Federalism on Metropolitan Strategies in Australia*, Federalism Research Centre, ANU, Canberra, pp. 72–89.
- Rimmer, S. and Wilson, S. 1996, *Compliance Costs of Taxation in Australia*, Staff Information Paper, Office of Regulation Review, Canberra, July.
- Rose, C. 1997, *The NSW Residential Land Tax: Tax Liability and Land Value*, Theoretical Research Institute, Sydney, 12 December.

- Rosen, H.S. 1992, *Public Finance*, 3rd edition, Richard D Irwin Inc, USA.
- Rubinstein, M. 1992, 'Review of Financial Innovations and Market Volatility by Merton H. Miller', *Journal of Finance*, 47, pp. 819–823.
- Russell, B. and Tease, W. 1990, 'Employment, Output and Real Wages', *Economic Record*, 67, pp. 34–45.
- Ryan, M. 1995, *What Future for Payroll Taxes in Australia?*, Research Paper No. 10, Commonwealth Treasury, Canberra, September.
- SA Department of Treasury and Finance 1996, *Annual Report 1995–96*, Department of Treasury and Finance, Adelaide.
- SBDTF 1996, *Time for Business, Report of the Small Business Deregulation Task Force*, SBDTF, Canberra, November.
- Scales, W.I., Croser, B.J. and Freebairn, J.W. 1995, *Winegrape and Wine Industry in Australia*, A Report by the Committee of Inquiry into the Winegrape and Wine Industry, AGPS, Canberra, 30 June.
- Schou, K. and Johnson, L.W. 1979, 'The short-run price elasticity of demand for petrol in Australia', *Rivista Internazionale Di Economica Dei Trasporti*, 6, pp. 357–364.
- Selvanathan, E.A. 1988, 'Alcohol consumption in the UK, 1955–85: a system-wide analysis', *Applied Economics*, 20(8), pp. 1071–1086.
- 1991, 'Cross-country alcohol consumption comparison: an application of the Rotterdam demand system', *Applied Economics*, 23(10), pp. 1613–1622.
- Senate Community Affairs Reference Committee 1995, *The Tobacco Industry and the Costs of Tobacco-Related Illness*, Commonwealth of Australia, December.
- Shaw, D. 1997, *Facsimile Transmission*, Victorian State Revenue Office, Policy and Legislation Branch, 14 February.
- Silberberg, E. 1990, *The Structure of Economics, A Mathematical Analysis*, 2nd edition, McGraw-Hill Publishing Company, Singapore.
- Smith, J.P. 1993, *Taxing Popularity: The Story of Taxation in Australia*, Centre for Research on Federal Financial Relations, ANU, Canberra.
- Stacey, G. and Downes, P. 1995, *Wage Determination and the Labour Market in the Treasury Macroeconomic (TRYM) Model*, Paper presented to the 24th Annual Conference of Economists, Adelaide, 25–27 September.

-
- State of Victoria 1992, *Budget Revenues 1992–93*, Budget Paper No. 4, The Law Printer, Melbourne.
- 1996, *Budget Estimates, 1996–97*, Budget Paper No. 3, AGPS, Melbourne, September.
- 1997, *Budget Statement, 1997–98*, Budget Paper No. 2, AGPS, Melbourne, April.
- Stiglitz, J.E. 1989, ‘Using tax policy to curb speculative short-term trading’, *Journal of Financial Services Research*, 3, pp. 101–115.
- Subrahmanyam, A. 1998, ‘Transactions taxes and financial market equilibrium’, *Journal of Business*, 71(1), p. 81.
- Summers, L.H. and Summers, V.P. 1989, ‘When financial markets work too well: A cautious case for a securities transactions tax’, *Journal of Financial Services Research*, 3(2), pp. 261–286.
- Swan, E. 1996, *Review of the New South Wales Tax Structure*, Paper presented to the 25th Annual Conference of Economists, Canberra, 22–26 September.
- Sweeney, J.L. 1979, ‘Effects of federal policies on gasoline consumption’, *Resources and Energy*, 2, September, pp. 3–26.
- Symons, J.S.V. 1985, ‘Relative prices and the demand for labour in British manufacturing’, *Economica*, 52(25), pp. 37–49.
- Tasman Institute 1991, *Costs of Alcohol Abuse: A Review of a Report by the Department of Community Services and Health*, Tasman Institute, Melbourne.
- Tsolakis, D., Riethmuller, P. and Watts, G. 1983, ‘The demand for wine and beer’, *Review of Marketing and Agricultural Economics*, 51(2), pp. 131–153.
- Tulpule, A. and Powell, A.A. 1978, *Estimates of Household Demand Elasticities for the ORANI Model*, Preliminary Working Paper No. OP-22, Impact Project, IAC, Melbourne, September.
- Varian, H.R. 1984, *Microeconomic Analysis*, 2nd edition, W.W. Norton & Company, New York.
- VCIRR 1983, *Report of the Committee of Inquiry into Revenue Raising in Victoria*, Government Printer, Melbourne, May.

- Victorian Environment Protection Authority 1994, *Victorian Transport Externalities Study*, Volume 4, Victorian Environment Protection Authority, Melbourne, May.
- Victorian State Revenue Office 1996, *Annual Report 1996*, State Revenue Office of Victoria, Melbourne.
- 1998, *General information about land tax — 1998*, State Revenue Office of Victoria, Melbourne, 27 February.
- Victorian Office of the Valuer General 1996, *A Guide to Property Values, 1995–96*, Office of the Value General, Melbourne.
- Wallis, S., Beerworth, B., Carmichael, J., Harper, I., Nicholls, L. and Smith, G. 1996, *Financial System Inquiry Discussion Paper*, AGPS, Canberra.
- 1997, *Financial System Inquiry*, Final report, AGPS, Canberra.
- Walrut, B. 1989, 'The harmonisation of State taxes: an interstate view', Chapter 8 in ATRF, *State Taxation: Assessing the New South Wales Tax Taskforce Report*, ATRF, Sydney, pp. 68–75.
- Walsh, C. (ed) 1990, *Issues in State Taxation*, Centre for Research on Federal Financial Relations, ANU, Canberra.
- Warren, N. 1988, 'Spatial incidence of selected New South Wales taxes', Chapter 2 in NSW Tax Task Force, *Review of the State Tax System, Volume 2: Commissioned Studies*, Sydney, pp. 63–181.
- WA State Revenue Department 1997a, *Payroll Tax, Calculation of Tax Payable by Group Employers*, Government of Western Australia, July.
- 1997b, *Payroll Tax, Calculation of Tax Payable by Local Non-Group Employers*, Government of Western Australia, July.
- 1997c, *Payroll Tax, Calculation of Tax Payable by Interstate Non-Group Employers*, Government of Western Australia, July.
- Willig, R.E. 1976, 'Consumer's surplus without apology', *American Economic Review*, 66, pp. 589–597.
- Witte, A.D., Sumka, H. and Erikson, L. 1979, 'An estimate of a structural hedonic price model of the housing market: an application of Rosen's theory of implicit marketing', *Econometrica*, 47(5), pp. 1151–1173.
- Wood, G.A. 1991, *Taxation and Housing*, Background Paper No. 5, National Housing Strategy, AGPS, Canberra, June.

- 1993, *The Distribution of the Stamp Duty Liabilities of Owner Occupiers*, Working Paper No. 98, Department of Economics, Murdoch University, Murdoch, July.
- 1994a, *The Contribution of Local and State Government Taxes to Home Owners' User Cost-of-capital*, Working Paper No. 107, Department of Economics, Murdoch University, Murdoch, April.
- 1994b, *Home Owner Property Taxes and Their Burden on Net Personal Wealth*, Working Paper No. 108, Department of Economics, Murdoch University, Murdoch, May.
- Yates, J.N. 1981, 'The demand for owner-occupied housing', *Australian Economic Papers*, 20(37), pp. 309–324.
- 1994, *Housing and Taxation: An Overview*, Working Paper No. 196, Department of Economics, University of Sydney, Sydney, March.
- Yellow Pages Australia 1996, *Small Business Index, A Special report on The Paperwork Burden of Small Business*, Commissioned by The Small Business Deregulation Task Force, Pacific Access, October.