



Tasmania

The Competition Index

A State-by-State Comparison

**Government of Tasmania
May 2000**

Foreword

This Paper has been prepared by the Department of Treasury and Finance to provide an objective assessment of the attractiveness of Tasmania as a business location relative to the other States of Australia.

This project is part of the Tasmanian Government's response to the Industry Audits released in August 1999. The Paper aims to highlight those areas in which Tasmania has a competitive advantage as a location for business and those where it is at a disadvantage compared to other Australian States. In this way, the Paper will assist the Government in identifying how it might best focus its industry policy.

The indices that are presented in this Paper are intended as a general guide to measuring the relative attractiveness of Tasmania as a business location. They should not be interpreted as precise measures of the costs that would be faced by individual firms.

The indices have been independently reviewed by consultants KPMG, who found them to be objective and not designed to favour Tasmania or any other State.

During the preparation of this Paper, a number of Tasmanian businesses and industry organisations, including the Tasmanian Chamber of Commerce and Industry, and the Tasmanian Trades and Labor Council were consulted as part of the process of identifying those issues important to business location decisions. The input from these firms and organisations has been invaluable and the Government extends its thanks to all those who assisted in this project.

The work presented in this paper is ongoing. The indices that have been prepared will be refined over time and additional indices are being developed to attempt to capture a wider range of factors important to businesses in deciding where in Australia to invest.

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Treasurer

24 May 2000

CONTENTS

1	<i>Executive Summary</i>	1
2	<i>Introduction</i>	5
2.1	<i>Purpose</i>	5
2.2	<i>Methodology</i>	6
2.3	<i>Scope</i>	6
3	<i>Findings</i>	9
3.1	<i>Cost-Based Indices</i>	9
3.1.1	Labour Market	9
3.1.2	Land and Accommodation	11
3.1.3	Energy	12
3.1.4	Freight	15
3.1.5	Transport-Related Infrastructure	16
3.1.6	Proximity to Markets	17
3.1.7	Resource Endowment	17
3.2	<i>Industry-Based Cost Indices</i>	18
3.2.1	Mining	19
3.2.2	Manufacturing	20
3.2.3	Accommodation, Cafés and Restaurants	20
3.2.4	Finance and Insurance	21
3.2.5	Property and Business Services	21
3.2.6	Access to Markets	22
4	<i>Other Issues</i>	25
4.1	<i>Planning and Appeals</i>	25
4.2	<i>The Tasmanian Lifestyle</i>	26
5	<i>Conclusion</i>	29
	<i>Appendix 1 - Calculation of Indices</i>	31
A1.1	<i>Cost-Based Indices</i>	31
A1.1.1	Labour Costs	31
A1.1.2	Land and Accommodation	33
A1.1.3	Energy	34
A1.1.4	Freight Charges	36
A1.1.5	Transport-Related Infrastructure	36
A1.1.6	Proximity to Markets	36
A1.1.7	Resource Endowment	37
	<i>Industry-Based Indices</i>	38
	<i>Appendix 2 – Component Indices</i>	41
	<i>Appendix 3 – Land Tax and Payroll Tax</i>	43
	<i>Sources</i>	47

1 Executive Summary

- The purpose of this paper is to provide an objective assessment of the costs and benefits of undertaking business in Tasmania with those in the other Australian States. The focus of the paper is on selected identifiable costs and benefits.
- Indices have been prepared for a number of cost categories and a number of industries. A summary of the rankings for each State for the composite indices is provided in Table 1 below.

Table 1 Summary of Ranking of States*

	NSW	Vic	Qld	SA	WA	Tas
Cost-Based Indices						
Direct Labour Costs	6	4	3	2	5	1
Labour Skills	1	4	5	3	2	6
Labour Turnover	3	4	5	2	6	1
Industrial Disputes	4	6	5	2	3	1
Land and Accommodation	6	3	5	1	4	2
Energy Cost Index	2	1	3	4	6	5
Freight Cost Index	3	5	1	2	4	6
Access to Ports Index	5	4	6	3	2	1
Port Charges Index	6	5	2	3	4	1
Forestry Endowment Index	3	4	2	5	6	1
Mineral Resource Endowment	3	6	2	5	4	1
Proximity to Markets Index	1	2	3	4	5	6
Industry-Based Cost Indices						
Mining	6	3	5	1	4	2
Manufacturing	6	2	4	1	5	3
Accommodation, Cafes and Restaurants	6	1	5	2	4	3
Finance and Insurance	6	4	5	2	3	1
Property and Business Services	6	3	5	2	4	1

* The most favourable ranking is 1 for all of the indices

- The indices have been developed by the Department of Treasury and Finance and can be expected to apply to average or representative firms in each State. They do not necessarily reflect the cost conditions that would exist for any individual firm. Also, the indices have been prepared on the basis of the costs that would be faced by a new firm setting up rather than those faced by existing firms. Assistance provided to new firms by State governments has not been included in the calculations.

- Tasmania compares favourably in the labour cost index primarily as a result of relatively low wage costs in the State. Tasmania has the lowest average labour costs (including on-costs such as workers' compensation premiums and payroll tax) of all the States, but the payroll tax burden, as a stand-alone item, is above the average for all States. However, the payroll tax burden in for businesses with up to 300 employees (which account for more than 95 per cent of all businesses paying payroll tax in this State) is competitive with most other States.
- Tasmania also has a stable workforce, with the lowest level of industrial disputation and the highest retention rate of all States. However, the skill base of the Tasmanian labour force is the lowest of all the States.
- Tasmanian land and accommodation costs are among the lowest nationally, with the lowest value and rental costs for industrial and commercial land and the lowest municipal rates, although data limitations for the municipal rates component mean that some caution needs to be exercised in the use of this component. The land tax burden for business in Tasmania is comparable with that in other States.
- Energy prices in Tasmania are relatively high for all forms of energy, compared with those in other States.
 - Electricity prices in Tasmania for most customers are higher than those in New South Wales and Victoria. In these States, there is a contestable market and customers are benefiting from the excess generation capacity in New South Wales and Victoria. However, prices in Tasmania are comparable with those in South Australia and are lower than those in Western Australia.
 - Fuel prices in Tasmania are generally higher than in the other States.
 - The absence of natural gas means that Tasmanian businesses must rely on the significantly more expensive liquid petroleum gas (LPG), though the introduction of natural gas via the Duke Natural Gas Project will significantly improve Tasmania's energy cost competitiveness.
- Access to ports is much better in Tasmania than in other States, with a relatively high proportion of the State's businesses within close range of a major port. Port charges also appear to be favourable compared with those in other States.
- Tasmania has a relatively high endowment of both timber and mineral resources, contributing to the State's attractiveness to firms in the forestry and mining sectors.
- A major hindrance to Tasmanian businesses is the relative isolation of the State. While for some businesses, such as those that rely primarily on overseas markets, the relative isolation of Tasmania may not be a problem, it is a constraint on the establishment and growth of many businesses in the State. Tasmania's relative isolation causes problems in relation to the marketing of goods and services, reduced access to business and financial services, increased freight costs and, in some cases, difficulty in attracting skilled labour to the State. The market access index reflects the significant disadvantage that Tasmania suffers as a business location through its isolation.

- The industry-based cost indices indicate the relative cost competitiveness of each of the States for selected industries. However, not all costs faced by businesses have been included in the indices and, for some businesses, the costs that have not been included may account for a significant proportion of total costs.
- Indices have not been prepared for the agriculture, forestry and fishing sector, which includes growth industries such as aquaculture, because there is less information available for this sector. In addition, inherent differences between States, such as climate, make comparisons difficult because of the very different nature of the sector in each State. For example, the relatively cold waters surrounding Tasmania make it the only State in which salmon farming is viable.
- In general, Tasmania has a number of cost advantages for businesses. Low labour costs, low land and accommodation costs, a stable workforce, good port access and a good endowment of natural resources make Tasmania an attractive location to undertake business, particularly where proximity to a large domestic market is not essential.
- An example of an industry in which Tasmania has a comparative advantage is the IT industry, which is included in the property and business services sector. Tasmania emerges as having a cost advantage in this sector and if proximity to a market is not essential, business conditions in Tasmania are very favourable.
- There is ongoing work being undertaken to develop more cost indices and to refine those that have been included in this document. This further work will be included in future reports.

2 Introduction

2.1 Purpose

This project is part of the Tasmanian Government's response to the Industry Audits in August 1999. Its aim is to highlight those areas in which Tasmania has a competitive advantage as a location for business and also to identify how the Government might best focus its industry policy.

The competitiveness of firms, their profitability and their ability to expand depend on a large range of factors. Differences in these factors between the States of Australia will influence where firms choose to locate. The purpose of this paper is to identify the relative costs and benefits of undertaking business in Tasmania compared with the other States.

No other studies have been identified that compare between States a broad range of issues that impact on business. There are a number of other sources of interstate comparisons of issues that affect business, but these tend to be limited to individual factors or a set of related factors. For example, New South Wales Treasury's *Interstate Comparison of Taxes* provides comprehensive details of State taxes. Several organisations, such as Access Economics and Econtech, undertake interstate comparisons of economic performance. From time to time, interstate comparisons of specific issues may be undertaken by government agencies, such as the Productivity Commission, in the course of an inquiry.

This paper aims to provide comparisons of a broad range of factors affecting business. Comparisons are made between States by aggregating data to reflect the situation that exists for firms on average. The analysis is therefore necessarily general in its approach and does not reflect the specific costs or market conditions that would exist for any one firm. Rather, it is intended to be a guide to relative costs and benefits in general.

The comparisons included in the paper focus on the situation that would be faced by a representative firm establishing in a particular State rather than the situation faced by existing firms. Therefore, where the costs, such as electricity costs, were agreed in contracts under different market conditions and are not likely to be applicable now, those costs have generally not been included in the analysis.

It should be noted that the States often provide additional assistance for new firms, which is often specific to the particular firm. Because of the general nature of the comparisons in this paper, it is not possible to capture the relative benefits of such assistance. It is recognised, however, that in particular instances these assistance measures may be a key factor in determining where a firm will locate.

2.2 Methodology

A two-stage approach has been used in the preparation of this paper.

- A series of industry visits was undertaken, together with discussions with the Tasmanian Chamber of Commerce and Industry, to help identify those factors that are of importance to businesses when deciding to establish or expand in a particular area. These visits also provided some information on how businesses perceive their environment in Tasmania as being different from that in the other States.
- Quantitative information was gathered from a wide range of sources to provide a comparison of the factors that impact on the competitiveness of businesses. Most data are from the Australian Bureau of Statistics (ABS). A set of indices has been developed that reflect the relative costs of specific inputs within each State.

The indices, where possible, have been developed in such a way as to abstract from differences in factors between States that result from differences in the industry composition of the States. For example, payroll tax actually collected in each jurisdiction has not been used as the basis of the payroll tax calculations because such data reflect not only differences in the wages and payroll tax rates between States but also any differences that may exist in the size distribution of firms. Other things being equal, a State with a relatively large proportion of large firms would have high payroll tax receipts compared to a State with a larger proportion of small firms. This is because all States have a threshold level of total wages paid below which payroll tax does not apply. The index has been calculated in such a way as to enable a comparison of the payroll tax burden to be made for firms of a given size across all States.

The indices that have been calculated have been aggregated where appropriate. In the case of labour costs, for example, the index reflects the total cost of employing staff by including wages, payroll tax, superannuation, workers' compensation premiums and fringe benefits tax. This method enables a better comparison of the true costs of undertaking business in each of the States as it is not possible, for example, to pay wages without also paying these on-costs. A breakdown of the components of the labour cost index is included in Appendix 2.

2.3 Scope

This document only provides a comparison of the relative costs of undertaking business for the States. The Northern Territory and the ACT have not been included in the comparison because in a number of cases data are not available for the Territories to allow a valid comparison. Also, as a location in which to invest, the Territories are so different in many respects from Tasmania that comparison is not particularly helpful.

Factors that impact on businesses include:

- State and local government rates and charges;
- labour costs and productivity;

- the cost of inputs;
- the stability of government and government policy;
- the availability of natural resources or other important inputs;
- market accessibility;
- planning laws;
- ability to attract and retain employees; and
- land and accommodation costs.

The comparison undertaken in this paper is as comprehensive as feasible in light of data constraints. The focus of the paper is on the development of measurable indices and this focus necessarily means that some important factors that are likely to influence business decisions are not considered in detail.

Those factors that have been included in the paper relate to:

- State and local government rates and charges;
- labour costs and productivity;
- the cost of energy;
- the availability of natural resources;
- market accessibility; and
- land and accommodation costs.

These factors can be categorised into two main groups:

- those that impact directly on business costs (energy, labour, freight and land and accommodation costs, and taxes and charges); and
- those that impact indirectly on businesses (such as availability of natural resources and market accessibility).

There is a third category of factors that this paper has not covered, namely those that may impact on business confidence, such as political stability and government policy. These have been excluded because of difficulties in determining appropriate measures.

The direct costs that have been included in this paper do not account for the full range of input costs and work is still being undertaken in relation to a number of additional direct costs. In particular, more detailed information is being sought on the cost of natural resources, such as the cost of timber and the cost of mineral production, including a comparison of mineral royalty regimes.

The direct costs that have been included in the paper are estimated to account for over 35 per cent of industry costs in total. However, this percentage will vary across industries and tends to be lower for businesses that are capital intensive or for which raw material costs constitute a large proportion of total costs.

There are many reasons for differences in the costs faced by business in each State, such as differences in industry structure, the goods produced by the industries and the cost of inputs. Analysis of the reasons behind these differences is very complex and generally beyond the scope of this paper.

Aggregate indices are presented in Section 3 and have been grouped according to similarity of factors (for example, an aggregate labour costs index) and by industry. The industry-based cost indices have been determined only in respect of export and import-competing industries, as these industries generally have some choice as to where to locate. By contrast, some industries, such as construction, education and health services, must be close to their markets. Cost-based indices are applicable to all industries.

A brief comparison of the planning systems in each State has also been included in Section 4. Discussions with industry indicated that there is a perception in the business community that the planning and appeals system in Tasmania imposes a significant barrier to development in the State. It is also alleged that Tasmania imposes more barriers than do other States. The purpose of the comparison of planning systems is to assess the validity of this concern.

Appendix 1 describes the methodology used in determining the indices and Appendix 2 details the component indices that have been used in the calculation of the indices presented in Section 3. Appendix 3 contains details of State payroll tax and land tax regimes taken from the New South Wales *Treasury's Comparison of State Taxes*.

3 Findings

Each index has a base of 100 for the State with the lowest cost or, in other cases, lowest benefit. This method provides both a ranking for the States and a guide to the magnitude of the differences in the costs and benefits between the States.

For those indices that are based on costs, a low value index number reflects a favourable result, while for those indices that measure the market advantages of undertaking business in each State, a high value index number is more favourable.

3.1 Cost-Based Indices

3.1.1 Labour Market

Discussions with industry representatives indicated that while labour costs are a critical cost component, the quality of the labour force has a significant impact on their operations. Four indices have been developed to reflect these two elements of the labour force. The first incorporates the direct costs of employing labour, including on-costs, and three others measure the stability and educational qualifications of the labour force in each State.

3.1.1.1 Direct Labour Costs

The labour cost index below incorporates all the major costs of employing labour: wages, payroll tax, fringe benefits tax, superannuation and workers' compensation premiums. Appendix 2 provides State-by-State data for the major components of this index.

These labour costs have been amalgamated in the index to better reflect the basis on which businesses make a decision to employ additional workers. To isolate individual costs, such as wages or payroll tax, would not provide a meaningful measure of the relative costs faced by businesses. The index has been designed to include all the unavoidable employee-related costs that an employer faces.

In general, the total cost of employing workers in Tasmania is less than in all other States.

Labour Cost Index						
	NSW	Vic*	Qld	SA	WA*	Tas
Index Number	113	107	104	104	107	100
Rank	6	4	3	2	5	1

* Before rounding, the index number for Victoria is slightly below that for Western Australia

An ongoing area of concern is the burden placed on employers by payroll tax. Tasmania has the second highest payroll tax of all States after New South Wales when payroll tax burden in each State is measured on a consistent basis. It should be noted, however, that the methodology used in this paper gives a relatively high weighting to

the payroll tax burden of firms with 300 or more employees. For businesses with up to 300 employees (which account for more than 95 per cent of all businesses paying payroll tax in this State) the payroll tax burden in Tasmania is competitive with the other States. Further details are provided in Appendix 2 and Appendix 3.

The method used to calculate the labour cost index is designed to reflect the average cost of employment in each State. Therefore, average wages for each State have been used. If identical ordinary time earnings were applied to each State, Tasmania would emerge as having the highest payroll tax burden of all States, marginally ahead of New South Wales and between 3 per cent and 21 per cent higher than the other States. However, the payroll tax burden in Tasmania is significantly less because earnings, by any measure, are below the national average.

3.1.1.2 Labour Characteristics

During discussions with business it was generally noted that one of the advantages of undertaking business in Tasmania is the relatively high quality workforce and the relatively low turnover. Nevertheless, there was some concern that it is difficult to attract and retain certain skilled staff in those areas where working in Tasmania would be perceived as resulting in some degree of professional isolation.

The overall quality of the labour force has been assessed using three characteristics: labour retention rates; industrial disputation and labour skill levels.

Tasmania performs particularly well in the labour retention and industrial disputation indices, with the best industrial relations record of all States and the highest labour retention rates. However, Tasmania has the worst ranking of all States in the skills index.

	Labour Skills Index					
	NSW	Vic	Qld	SA	WA	Tas
Index Number	106	101	100	103	106	100
Rank	1	4	5	3	2	6

* Before rounding, the index number for New South Wales is slightly below that for Western Australia

The labour skills index comprises two elements, the qualifications of persons in the labour force and the proportion of the labour force that is undertaking ongoing training.

While Tasmania performs well in the second of these elements, it does not perform as well in the first, with a relatively small proportion of the Tasmanian labour force having some form of qualification. In particular, Tasmania has a relatively small proportion of people who hold a bachelor degree or higher. This is consistent with the view of a number of the firms visited that it is difficult to attract and retain highly skilled people to the State.

The relatively small proportion of qualified people in Tasmania reflects in part the structure of the State's industrial base, with a smaller proportion of the workforce

employed in skilled professions as these tend to be based in larger metropolitan centres, particularly Melbourne and Sydney.

Labour Turnover Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	105	108	114	104	116	100
Rank	3	4	5	2	6	1

Industrial Disputes Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	276	312	286	109	248	100
Rank	4	6	5	2	3	1

3.1.2 Land and Accommodation

In addition to the cost of land rental and purchase, land and accommodation costs include State Government land tax and municipal rates. Land tax generally only applies to land that is used for purposes other than as a principal place of residence and primary production. Therefore, the major burden of land tax falls on businesses.

Tasmania has the second lowest aggregate land and accommodation costs of all the States, marginally behind South Australia. Tasmania has lower average land and property values than any other State.

Land and Accommodation Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	191	110	157	100	134	102
Rank	6	3	5	1	4	2

The property rental and values component of this index for Tasmania was also the lowest of all the States, primarily as a result of low property values. However, rental costs in Tasmania are relatively high in relation to property values. This may reflect the fact that property owners are not prepared to accept low rental income in the expectation of a large capital gain, as they do not expect property values to appreciate as they have in some other States.

The land tax component indicates that the burden on businesses in Tasmania is the third lowest of all States, behind Victoria and South Australia. The highest land tax burden is in New South Wales.

Variations in the land tax burden arise from differences in both land values in each State and the rates of tax. In the case of New South Wales, the relatively high land tax burden reflects both the high land values in that State and a relatively high tax rate. In

Victoria, the land tax regime is more progressive than in other States, with very low marginal rates of tax applying to lower valued land and very high marginal rates applying to higher valued land. About 80 per cent of commercial and industrial properties in Victoria are valued in the low tax range. Tasmania has a combination of relatively low land values and relatively high tax rates.

The land tax component of the index has been calculated in order to reflect the actual cost that may be incurred by businesses in each State and has therefore been based on average land values in each State. If a comparison of land tax is made by simply comparing land tax on properties of the same value in each State, Tasmania generally would have the highest land tax rates of all States, other than South Australia for certain properties.

The municipal rates component of this index for Tasmania is the lowest of all States. However, the data used for this component of the index may not be as reliable as for the other components of the index and should be treated with caution. In particular, the information used includes both residential and commercial rates, which may make the results unreliable. The fact that local government provides different services in each State also makes interstate comparison unreliable. In the absence of the municipal rates component, Tasmania has the third lowest land and accommodation costs for all States.

3.1.3 Energy

Energy is an important input for many firms, both directly and indirectly through transport costs. An aggregate energy cost index has been developed to compare the energy costs of the States and comprises components for each of the major types of energy: electricity, fuel and gas.

	Energy Cost Index					
	NSW	Vic	Qld	SA	WA	Tas
Index Number	108	100	116	117	138	136
Rank	2	1	3	4	6	5

The high costs for Tasmania reflect relatively high costs of all forms of energy in the State.

3.1.3.1 Electricity

Electricity prices in Australia have changed dramatically in recent years, particularly in a number of mainland States, where the introduction of a competitive National Electricity Market (NEM) and excess generation capacity in Victoria and New South Wales have led to declining wholesale electricity prices. The largest reductions have been in New South Wales and Victoria, where there has also been aggressive retail competition for contestable customers.

Prices for electricity vary from State to State due to a number of factors including the:

- principal method of generation in each State;

- length of transmission lines; and
- level of competition between electricity entities (both in retail and in generation).

Average Tasmanian electricity prices have historically been competitive with those in the mainland States due to the efficiency of hydro generated electricity compared with coal or gas generated electricity. However, the primary beneficiaries of the lower prices have been major industrial customers. Following the recent reductions in prices in Victoria and New South Wales, Tasmanian prices, other than to major industrial customers, are now relatively high.

Electricity Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	110	100	127	141	172	139
Rank	2	1	3	5	6	4

The lack of competition in the Tasmanian electricity market is seen by many businesses as the principal reason for Tasmania's relatively high electricity prices. The larger commercial businesses in particular are paying significantly more than their mainland counterparts who enjoy the benefits of competition. However, it should be pointed out that the low (and in fact unsustainable) prices in Victoria and New South Wales arise from excess generation capacity that had not been revealed in prices until the NEM commenced. Wholesale prices are similar in South Australia, Queensland and Tasmania, three States without excess capacity.

Tasmania's connection to the national electricity grid through Basslink and the proposed introduction of natural gas are expected by many businesses to result in some decline in wholesale prices in Tasmania.

Electricity prices in mainland States are not expected to fall further over the next few years, with demand increases likely to outweigh supply increases. Electricity price forecasts undertaken by PricewaterhouseCoopers for the Aurora submission to the 1999 Electricity Price Investigation by the Tasmanian Electricity Regulator suggest increases in charges for contestable customers in other jurisdictions of up to about 25 per cent for the period 1998-99 to 2000-01. Indeed, there has been a marked increase in wholesale prices in Victoria and New South Wales over the past year.

Electricity reliability may be as important to some businesses as electricity prices, particularly for those businesses where continuous electricity supply is a vital element of production. The component of the energy index that measures relative reliability of supply indicates that Tasmania has the second highest supply reliability behind South Australia.

Electricity Reliability Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	135	173	244	100	132	118
Rank	4	5	6	1	3	2

3.1.3.2 Fuel

Fuel prices vary across States, due principally to differences in the costs of transporting the fuel from refineries and in the competitive structure of the markets in each State.

Fuel Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	116	112	100	114	117	124
Rank	4	2	1	3	5	6

On the basis of the fuel price component of the energy index, Tasmania has the highest fuel prices of all States. While this may be a reflection of the freight costs associated with Tasmanian petrol, data from the Australian Institute of Petroleum (AIP) suggest that the freight costs are relatively low at approximately 0.1c per litre. AIP data also suggest that Tasmanian service stations receive a margin of 8 cents per litre, which compares with 4 cents per litre in most other capital cities, but is comparable with the retail margin in country areas of the other States. This difference is unlikely to reflect higher profits for retailers in Tasmania. Rather, it arises primarily from lower turnover by Tasmanian service stations and the absence of independent wholesalers, with a greater proportion of sales through distributors rather than directly from the wholesaler.

3.1.3.3 Gas

Gas represents an important energy source for many mainland businesses because it is relatively cheap and readily available. In recent discussions with Tasmanian industry, a number of businesses indicated that they consider that Tasmanian businesses are significantly disadvantaged, as they are currently unable to access natural gas.

An index has been calculated to reflect the relative cost of gas in Tasmania compared with the other States. Tasmania fares poorly in the index due to the absence of natural gas within the State, making LPG the only gas supply available. LPG is imported from mainland Australia, or sourced from overseas, and transported to each individual location at regular intervals, whereas natural gas transported by pipelines is far less transport intensive and therefore less costly.

Gas Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	158	100	192	139	222	384
Rank	3	1	4	2	5	6

This index does not directly reflect the additional disadvantage faced by Tasmanian businesses from not having access to bulk gas supplies through a gas pipeline. However, the prohibitive cost of LPG for many businesses represents an indirect measure of this disadvantage.

3.1.4 Freight

A significant cost of undertaking business in Tasmania is the cost of freight, both in terms of transporting inputs to production to the State and transporting finished goods out of the State.

Bass Strait represents a significant disadvantage to Tasmanian businesses. While the Tasmanian Freight Equalisation Scheme provides for some compensation arising from the costs imposed by Bass Strait, it falls short of full compensation. For example, some goods are not covered by the Scheme, such as bulk cargoes and inputs to production that are imported from overseas. In addition, no freight equalisation scheme is able to compensate for the problems faced by Tasmanian businesses as a result of the “tyranny of distance”, and the problems associated with undertaking business remote from major population centres.

One particular problem that was identified in the meetings with business was the disadvantage imposed on Tasmanian business by the additional time that was required to freight goods across Bass Strait, which could add several days to providing goods to distributors on the mainland compared to mainland producers. This has resulted in a number of producers in the State undertaking warehousing and distribution operations from the mainland. It has not been possible to factor this cost into the freight cost index.

Another factor that is being seen as increasingly important is the reduction in air freight capacity, which is seen as a disadvantage in particular for the producers of premium quality fresh produce. As this is not a cost issue it has not been included in this index.

The freight cost index reflects the relative cost of interstate freight rather than the cost of transporting goods internationally. It should be noted that there have been some difficulties encountered in preparing this index and the figures shown may not be reliable. It is hoped that further work will enable a more reliable index to be developed.

	Freight Cost Index					
	NSW	Vic	Qld	SA	WA	Tas
Index Number	108	111	100	105	109	117
Rank	3	5	1	2	4	6

Tasmania is the worst ranked of all the States in the freight cost index. The calculation of the index includes the receipt of a subsidy for freight equalisation. In the absence of this subsidy, the freight index for Tasmania would be 168, or around 50 per cent higher than the actual index value. Several firms have commented on how critical the freight equalisation payments are to enable them to be competitive in mainland markets.

3.1.5 Transport-Related Infrastructure

Transport-related infrastructure includes road, rail, shipping and airfreight infrastructure. The absence of quantitative information in respect of road, rail and air transport infrastructure in all States has prevented the estimation of an index in respect of these modes of transport. However, an index illustrating the relative access to ports in each State has been calculated.

3.1.5.1 Ports

Those firms that rely on overseas markets for either the sale of their products or the supply of inputs have a heavy reliance on access to port facilities. In addition, sea transport is important for the transport of goods domestically, with the large distances between population centres and the location of most major population centres on the Australian coast making sea transport a viable alternative to road and rail transport.

During the industry visits, the feedback in respect of port access was mixed, with a number of firms agreeing that relatively easy access to ports was important for their business, but also noting that the relatively large number of ports within the State may lead to high port charges.

Tasmania has the highest ranking of all the States for the port access index (in this case a high ranking implies a more favourable result), with a large proportion of the population relatively close to a port. It is assumed that the location of the population is a suitable proxy for the location of businesses within a State.

Port Access Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	112	129	100	140	145	166
Rank	5	4	6	3	2	1

The port charges index indicates that Tasmania has the lowest port charges of all States, well below the other States. This index should be interpreted with some caution, however, as the data used relate to only one port in each State (Burnie in the case of Tasmania) and are for 1996. In addition, no index has yet been produced on relative port efficiency, which can have a significant impact on business. Work on this element is continuing.

Port Charges Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	142	130	120	125	126	100
Rank	6	5	2	3	4	1

3.1.6 Proximity to Markets

Proximity to a large population base is important for many businesses for a number of reasons, including:

- access to the customer base;
- access to business and financial services; and
- capacity to attract skilled labour.

Proximity to a large customer base generally leads to low transport costs for goods and may be important for marketing. This is illustrated in the Tasmanian case with some Tasmanian manufacturers choosing to undertake marketing functions in mainland centres to permit greater access to customers.

However, the importance of a large local market differs between firms according to the nature of the product or service involved. For example, for commodities traded on the world market, ease of access to markets depends on access to, and the costs of, an international port and the quality and cost of international shipping services. Alternatively, for goods that are produced primarily for domestic consumption, the proximity to a large population base is important.

Even those firms that may have high levels of exports are advantaged by having access to a large local market. It provides them with some insulation from adverse world economic conditions and allows them to achieve economies of scale in production that may be necessary for them to be able to compete internationally. Therefore, as with many of the other factors that have been determined, the importance of this factor to each industry will vary significantly between industries and firms.

An index has been developed to reflect the proximity of the major population bases, which can be considered a proxy for access to domestic markets. The index indicates that Tasmania is most distant from these major markets.

Market Access Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	689	587	437	216	210	100
Rank	1	2	3	4	5	6

As would be expected, the range of the index values is large and reflects the significant disadvantage faced by Tasmanian businesses as a result of a small local market. New South Wales and to a lesser extent Victoria have an overwhelming advantage over Tasmania.

3.1.7 Resource Endowment

A major factor influencing the decision of firms to establish in a particular area is the availability of natural resources. Indices have been developed for forestry and mineral

resources that compare the relative endowment of these resources between each of the States. It was considered inappropriate to make a meaningful comparison of the relative endowment of agricultural resources because of the significant differences between agricultural production in each of the States as a result of factors such as climate. It was also not possible to make a valid comparison of the relative availability of fisheries resources because of a lack of comparable data.

Forestry Endowment Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	506	480	605	273	100	841
Rank	3	4	2	5	6	1

The forestry index indicates that Tasmania has a significantly higher forestry endowment than any other State.

The following table provides an indication of the relative mineral resource endowment of each of the States. An index has not been produced in this case because of the difficulties associated with aggregating the different minerals. Rather a ranking has been produced as explained in Appendix 1.

Mineral Resource Endowment Index						
	NSW	Vic	Qld	SA	WA	Tas
Rank	3	6	2	5	4	1

The ranking above demonstrates that Tasmania has a comparative advantage in terms of demonstrated mineral resources as a proportion of its land area when compared to other States. Indeed, Tasmania enjoys the highest density of mineral deposits of any State in relation to silver, tin and lead. Tasmania also has the second highest demonstrated mineral density of all the States in deposits of zinc, iron ore, gold and copper.

3.2 Industry-Based Cost Indices

Industry-based cost indices have been calculated for some industries in which firms have flexibility in deciding where to locate. The industries that have been included are:

- mining, defined to include the extraction of minerals but not downstream processing;
- manufacturing, defined to include the downstream processing of minerals and the processing of agricultural commodities;
- accommodation, cafés and restaurants;
- finance and insurance, which to a large extent services the local market, but for which there is flexibility for the firms in the location of centralised functions; and

- property and business services, which includes legal, accounting and architectural services, for which there is some potential for export, and call centres.

These industries account for about 30 per cent of Tasmania's Gross State Product (GSP).

The agriculture, fishing and forestry sector has been excluded from the analysis because labour cost data for this sector are not collected by the Australian Bureau of Statistics (ABS).

The industry-based cost indices have been based on the following cost component indices:

- labour costs;
- energy;
- interstate freight; and
- land and accommodation.

An important factor in assessing whether a particular State has a favourable business environment for a firm is the ability of the firm to access its market. This factor has not been included in the aggregate index for each industry because of the difficulty in weighting it relative to the other factors. For many businesses, the ability to access markets will be a key factor in the establishment of businesses within a State. For this reason, in Section 3.2.6 separate consideration has been given to whether access to markets is a significant factor in the location decisions made by firms for each industry.

It is also worth noting that some costs within particular sectors are likely to reflect the relative attractiveness of establishing a firm within a particular jurisdiction. For example, if a jurisdiction has a relatively high resource base, it is likely that the relative profitability of the resource sector will lead to higher payments to labour. Similarly, land and accommodation costs are highest in the metropolitan centres, where demand is greatest.

In each of the industry-based cost indexes, a low index number indicates low costs.

3.2.1 Mining

A decision about whether to establish or maintain a mining operation within a State is influenced principally by the availability of a resource. Tasmania has a wide variety of rich and high-grade mineral deposits in a very compact area, making it an attractive location for mining operations.

Notwithstanding this, decisions by firms to continue with or undertake mining operations in the State will be influenced by the competitiveness of the firm on the world market, which will ultimately be influenced by the costs of those operations.

In the mining cost index, Tasmania is ranked second lowest of all States after South Australia. The favourably low cost for Tasmania primarily reflects low labour costs.

Mining Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	138	114	126	100	120	112
Rank	6	3	5	1	4	2

Mining royalties in each State are likely to impact on the relative attractiveness of undertaking mining. The mining royalty regimes in Australia vary significantly and work is still being undertaken to compare mining royalties between the States. Also, work is being undertaken to develop a more comprehensive index of mining costs for the States to include the cost of extraction.

3.2.2 Manufacturing

The manufacturing sector in Tasmania accounts for about the same proportion of factor income and employment as for Australia as a whole. However, the composition of the Tasmanian manufacturing sector differs from that of the rest of Australia, with greater reliance on the processing of agricultural and mineral resources and less reliance on the production of machinery and equipment.

Manufacturing Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	117	103	107	100	108	105
Rank	6	2	4	1	5	3

Tasmania is ranked third lowest after South Australia and Victoria in the manufacturing cost index. Compared to Tasmania, South Australia has lower costs in all the categories included in the index, while Victoria has lower energy and land and accommodation costs, but higher average wages.

3.2.3 Accommodation, Cafés and Restaurants

Labour and land and accommodation costs represent a significant proportion of overall costs for the accommodation, cafés and restaurants sector.

Tasmania has the third lowest cost index for this industry sector, behind South Australia and Victoria. South Australia's average labour costs are similar to those in Tasmania, but South Australia has lower land and accommodation and energy costs. Victoria has marginally lower labour costs for this sector than Tasmania, but higher land and accommodation costs.

Accommodation, Cafés and Restaurants Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	137	100	130	100	118	104
Rank	6	1	5	2	4	3

3.2.4 Finance and Insurance

Tasmania has the lowest cost index for the finance and insurance sector.

Labour costs represent an important component of finance and insurance sector costs and the relatively low labour costs for Tasmania contribute to the relatively low cost index for this factor.

Finance and Insurance Cost Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	146	121	122	109	110	100
Rank	6	4	5	2	3	1

It should be noted that the structure of the finance and insurance industry in each State varies significantly, with Tasmania generally having a lower proportion of staff in higher level positions compared with some other States, in particular New South Wales and Victoria. The index has been calculated in such a way as to eliminate as much as possible the different employment structure in each State. However, it is unlikely that this effect has been fully eliminated.

3.2.5 Property and Business Services

This sector comprises a broad range of industry sectors, including:

- real estate agents and property developers;
- machinery and equipment hiring and leasing;
- ‘technical’ services (architectural, surveying and consultant engineering services);
- computer services;
- legal and accounting services;
- marketing and business management services; and
- ‘other’ business services (for example, employment placement and call centres).

Tasmania has the lowest cost index for the property and business services sector of all States, with slightly lower costs than in South Australia.

Property and Business Services Index						
	NSW	Vic	Qld	SA	WA	Tas
Index Number	168	109	137	102	125	100
Rank	6	3	5	2	4	1

3.2.6 Access to Markets

While Tasmania performs relatively well in terms of many of the cost indices, there are many other factors that will determine the ability of a particular jurisdiction to attract and retain businesses. Access to markets, more than any other factor, is likely to be prohibitive to the establishment of a business in a particular location. The importance of having access to a large local market is considered below for each industry.

3.2.6.1 Mining

Access to a large local market is generally not important for high value minerals such as copper, tin and zinc. The relatively high value of the mineral means that transport costs associated with a firm being isolated from its market are of less importance than other factors, such as availability and quality of the resource and extraction costs. In addition, a large proportion of these minerals is exported internationally, which means that a large local market is not an important issue for firms in this part of the industry.

In that section of the industry that is involved in the supply of relatively widely available low value minerals, such as gravel, access to local markets is likely to be of importance because transport costs will prohibit the transportation to distant markets.

3.2.6.2 Manufacturing

Manufacturing incorporates a diverse range of businesses and the nature of the product will determine the importance of access to markets. Those products that are relatively high value added products for which additional transport costs represent a relatively small proportion of the value are unlikely to be significantly affected by location.

Similarly, those firms involved in the processing of resources, such as smelting, are not likely to be influenced by the location of its customer base because transport costs represent a relatively small proportion of total costs. Other factors such as resource availability or the cost of key inputs such as electricity are likely to be more important considerations.

On the other hand, those firms involved in the manufacture of low value added products and/or products with relatively high transport costs will be disadvantaged by having a location that is relatively remote from major markets.

3.2.6.3 Accommodation, Cafés and Restaurants

The hospitality industry services both the local market and the tourist or convention market. Greater access to a large local market is very important to most firms in this industry.

3.2.6.4 Finance and Insurance

The finance and insurance sector is one in which technology has made it possible to carry out business remote from the customer base. Therefore, proximity to the market is, in principle, less important an issue than it has been in the past for this sector. However, it remains the case that the finance and insurance sector remains close to its major markets. It is likely that other factors that are reflected in the population proximity index are likely to be important for this industry. For example, access to a suitably trained workforce and access to other businesses with appropriate levels of expertise are likely to be important in the banking and finance sector, making access to a relatively large local population important.

3.2.6.5 Property and Business Services

The industry covers a wide range of businesses for which access to markets will generally be of some importance. For example, businesses such as those providing accounting and architectural services are likely to be significantly advantaged by having ready access to a large local population.

For other businesses in this category though, ready access to markets is likely to be of less significance. Call centres and some IT businesses, for example, do not require close proximity to a large local market in order to be competitive.

4 Other Issues

4.1 Planning and Appeals

During the industry visits that were undertaken to assist with the preparation of this report, a number of participants expressed concern at the apparent ease with which developments within Tasmania could be stopped by the objection of a third party. The perception among business is that it is relatively easy in Tasmania for individuals to delay or prevent major developments.

The primary areas of concern were:

- the fact that the objecting third party did not need to be directly affected by the proposed development;
- it is not clear on what basis the Resource Management and Appeal Tribunal, under the *Land Use Planning Approvals Act 1993*, assesses the cases of third party objectors and the developer when hearing appeals; and
- there is little recourse for developers if the Appeal Tribunal upholds the appeal of third party objectors.

A comparison of the planning systems in Australian States¹ indicates that there are some differences in the planning and appeals system between States.

In relation to the specific concerns raised by industry:

- In Tasmania, New South Wales, South Australia and Queensland any person may object to a development. In Victoria only persons affected by the development may object. Western Australia has a large number of Acts and schemes that cover planning and the objection provisions vary between them.
- Objectors have the right to appeal against a proposed development in all States other than Western Australia. In New South Wales, the right of appeal is restricted to appeals on environmental grounds.
- In all States other than Queensland, appeal to a higher court against the decision of the relevant appeal authority is permitted only if the further appeal is based on a matter of law. In Queensland, the appeal authority may grant the right to appeal to a higher court.
- Tasmania is the only State that has a timeframe imposed on the announcement of an appeal decision.

¹ Comparisons of the planning systems for Australian States in this paper are those undertaken by the Tasmanian Department of State Development and by Collie Planning and Development Pty Ltd for the National Office of Local Government.

- Tasmania is the only State in which there is no Ministerial intervention in the planning system, other than for Projects of State Significance. The potential for intervention may result in some degree of assistance in having a project approved but may equally, under some governments, create some uncertainty for developers.
- All States have a different planning and development system for projects that are considered to be of State significance.

From industry's perspective, Tasmania would appear to have a planning and development system that is relatively open to the delay or prevention of new developments. In particular, the right of objection by any person, whether or not that person is affected by the development, is equal to the most generous objection rights in any of the other States and there is less scope for Ministerial support for developments with a significant public benefit.

A more thorough comparison would require case study analysis of the experience in each State to assess whether, in practice, there is a greater propensity for projects to be stopped in Tasmania as a result of objections and appeals.

Additional work is being undertaken in comparing the planning and appeal systems of each State.

4.2 The Tasmanian Lifestyle

While the focus of this paper is on the factors influencing the capacity of businesses to be competitive in Tasmania, factors related to the quality of life experienced by current and potential employees are a substantial component of Tasmania's comparative advantage. This next section provides some quantitative measures of the lifestyle benefits that firms located in Tasmania can offer potential employees.

Tasmania has much to offer prospective residents - spectacular scenery, unique flora and fauna, a refreshing climate and a rich heritage. Hobart offers a lifestyle that many consider to be unsurpassed by other major population centres in Australia. Particular advantages include:

- **Affordable housing.** In general, house prices are much lower, both in absolute terms and as a proportion of median incomes, than in mainland capital cities, particularly Sydney and Melbourne. Indeed, selling a heavily mortgaged property in either of these two cities can, in some cases, allow a person relocating to purchase a house in Hobart and still retain funds to invest.

Housing Affordability				
June 1999.				
State	Median House Price, Capital City, June 1999	Median Annual Family Income, June 1999	Ratio: Median House Price to Family Income	Proportion Family Income Devoted to Home Loan Repayments
New South Wales	\$280,000	\$46,748	6.0	28.4%

Victoria	\$226,000	\$46,748	4.8	22.9%
Queensland	\$145,000	\$43,056	3.4	22.8%
South Australia	\$126,000	\$39,396	3.2	19.6%
Western Australia	\$148,500	\$45,968	3.2	21.0%
Tasmania	\$115,000	\$36,400	3.2	19.1%

Source: Real Estate Institute of Australia, Market Facts- A Quarterly Review of Major Residential Property Markets in Australia: Annual Review 1999-00, Table 14.

- **Stress free travel.** Because Tasmania is relatively small and the necessities of life are closer, Tasmania's working environment is less pressured. Almost 60 per cent of the population get to and from work or school in less than 18 minutes, regardless of their mode of transport. Fewer than 2 per cent of Tasmanians take more than an hour to get to school or work² and traffic congestion is almost unknown.

² Australian Bureau of Statistics, *9201.8 Transport Patterns and Preferences, Tasmania* October 1997

5 Conclusion

The above analysis indicates that Tasmania has a number of cost advantages for businesses. In particular, low labour costs and land and accommodation costs, good port access and good access to natural resources make Tasmania an attractive location for many firms to undertake business. However, Tasmania's relative isolation may be a barrier to the establishment of firms that rely on access to a large customer base or financial and business services.

Tasmania's relatively low labour costs and the stability of the workforce were identified by many of the businesses visited during the preparation of the paper as important benefits of establishing in Tasmania. This is reflected in the indices.

Relatively low land and accommodation costs in Tasmania were also identified in the industry visits as a benefit of establishing an operation in Tasmania.

While it has been identified that there are many businesses that may not be attracted to Tasmania because of its relative isolation, there are many firms that would benefit from establishing in the State. For example, the IT industry, which is included in the property and business services sector, is one in which Tasmania has a comparative advantage. Tasmania emerges as having a cost advantage in this sector and, if proximity to a market is not essential, business conditions in Tasmania are favourable for the establishment of many firms in the sector.

Many of the indices in this paper reflect the findings of the industry audits undertaken by the Government in 1999, a number of which are already being addressed by the Government.

The Government recognises that the State's relative isolation may hamper some businesses. However, this is not the case for all businesses and the Government is focussing its policies on areas in which Tasmania is not disadvantaged. In particular, the Brand Tasmania Council has been established to strengthen Tasmania's profile across all export industries through the Brand Tasmania project. Also, the Government has provided additional funding to the Department of State Development to help identify the measures needed to ensure that Tasmania is able to develop competitive and successful businesses.

Another issue that was highlighted in the industry audits which has been reflected in the competitiveness indices is the relatively lower skill levels of Tasmanian employees. To address this issue, the Government has committed funds to TAFE Tasmania to allow additional training. The Skills Response Unit has also been established in the Department of State Development to assist in ensuring that training is directed to those skills that are most in need.

The absence of gas as a feasible energy alternative for businesses in the State has also been highlighted in the competitiveness indices. The Government is addressing this issue through its discussions with Duke Energy International to develop a pipeline from Victoria to Tasmania and reticulate natural gas within Tasmania. In addition, the establishment of Basslink will assist in making the electricity market in Tasmania more

competitive and is likely to result in electricity prices being lower than they would otherwise be.

As mentioned at the outset, the indices in this document are subject to further work and there is ongoing work being undertaken to develop additional cost indices. This will produce a more complete set of indices and allow a more accurate comparison of business conditions between the States.

Appendix 1 - Calculation of Indices

The indices have been split into two categories in order to analyse the comparative costs and benefits of undertaking business in Tasmania. Cost-based indices group similar factors together, while industry-based indices compare certain costs for selected industries between States.

All the indices have a base of 100, which is the index for the State with the lowest value for each factor. For the indices that measure a quality element, a high value index number reflects a more favourable result, while for the cost-based indices, a low value is more favourable.

A1.1 Cost-Based Indices

A1.1.1 Labour Costs

The relative costs and benefits associated with the labour market in each jurisdiction fall into two broad categories.

Direct labour costs refer to the direct costs associated with employing labour and include wages and salaries, payroll tax, superannuation, fringe benefits tax and workers' compensation premiums.

Labour characteristics comprise those factors that are less easily linked with the employment of an individual and may be difficult to quantify. These factors relate to the quality of the workforce and specific factors that have been measured in this paper are labour turnover, training and education and level of industrial disputation.

A1.1.1.1 Direct Labour Costs

The wages and salaries component of the labour cost index has been determined using data from the ABS 1998 Survey of Employee Earnings and Hours. This measure provides wages data by occupation, which helps to eliminate some of the differences in average wages between States resulting from variations in the structure of the industry of each State. These data do not, however, eliminate differences in wages between States that may arise from differences in the skill levels of the work forces.

The calculation applies equal weighting to each of the occupation categories for which data are available.

Payroll tax has been determined on the basis of what a notional firm paying the average wage in each State, based on the above calculation, would be required to pay in each of the States. The notional firm is based on an average of five firms with employment levels of 50, 75, 160, 300 and 570, which are the same as those included in Tasmanian Budget Paper No. 1 for 1999-2000. This method of calculation allows for the comparison of payroll tax liability on a consistent basis across all States. Two issues arise as a result of the calculation of relative payroll tax burden under this method.

- The selected firm sizes. As firm size increases, the payroll tax liability per employee increases at a greater rate in Tasmania than in most of the other States because Tasmania has a relatively high marginal rate of payroll tax. Therefore, the comparison used is more favourable for Tasmania than one incorporating a much larger firm size, such as 1 000 employees. Nevertheless, since more than 95 per cent of firms, and almost all new firms, employ less than 570, the calculation is relevant for the vast majority of firms.
- The method of calculating the wages bill for each firm. The payroll tax liability calculated will not be the same as that actually payable because of the absence of allowance for part-time staff and overtime payments. This may result in the weighting given to payroll tax in the calculation of the composite direct labour cost index being higher or lower than the actual relative liability. This is not considered to be a major problem given that wages and salaries, the major component of the index, has been calculated on the same basis.

Details of the payroll tax rates that apply in each State are included in Appendix 3.

Fringe benefits tax, superannuation and workers' compensation premiums figures used in the calculation have been taken from ABS labour costs data. Because these data are based on the actual amount paid by the firms surveyed, the results may vary between States if there are differences in the structure of the workforce in each State. For example, those States with a higher proportion of their workforce in relatively dangerous industries might be expected to have higher workers' compensation premium costs. A further shortcoming of these data is that they relate to 1997-98 and do not reflect recent changes to these factors.

Each of the components of the labour cost index have been weighted according to their relative contribution to overall labour costs in each State.

A1.1.1.2 Labour Characteristics

Three indices have been calculated to reflect the importance that businesses place on having a good-quality, stable workforce. The indices relate to industrial disputes, the skill base of the labour force and labour turnover.

The industrial disputes index has been determined using ABS industrial disputes data and is based on the number of disputes per thousand employees. The average number of disputes per thousand employees over the five years to 1998-99 and the three months to September 1999 have been included to ensure that the index reflects the industrial relations record of each of the States.

The skill index comprises two components: an education and training component and a qualifications component. The education and training component is based on ABS data on the education and training experience of the workforce. This information is released on an irregular basis and the most recent data available relate to 1997. The index has been based on the number of persons who undertook education or training courses in the year prior to the survey. Training courses included are structured courses that were undertaken primarily with the aim of obtaining, maintaining or improving employment related skills or competencies.

The qualifications component is based on 1996 census data and reflects the proportion of the population over 15 years of age that has some form of vocational qualification.

Labour retention has been based on 1998 ABS data on duration of employment. The index reflects the proportion of employees who had been in their current job for three or more years. Three years is considered to be an appropriate threshold to reflect labour stability. The Tasmania Chamber of Commerce and Industry was consulted about this approach and while noting that the selection of the appropriate threshold was arbitrary, agreed that the use of three years was considered acceptable.

A1.1.2 Land and Accommodation

Total land and accommodation costs for industry include the purchase or rental of property, State Government land tax and municipal rates. The aggregate index for land and accommodation costs has been calculated from data in respect of each of these three components, which have been weighted according to their relative contribution to the total land and accommodation cost in each State.

A1.1.2.1 Land and Accommodation Costs

The relative values of land and accommodation vary significantly between States and within States. The data that have been used to compare land and accommodation costs between States comprise rental and value data for commercial and industrial properties in capital cities in each State. The validity of this measure depends on the assumption that the capital city prices reflect the relative prices for properties in each State.

In the case of New South Wales and to a lesser extent Queensland, very high capital city property values mean that Sydney or Brisbane prices alone may not provide a true reflection of relative property values for those States as a whole. Property values for areas outside Sydney (Hunter, Illawarra and Newcastle) and Brisbane (Gold Coast) have therefore been included in the calculation of the indices for New South Wales and Queensland.

The data used for this measure are taken from data collated by CPM Research, an independent property consultancy. The data are presented on the basis of the cost per square metre of property. In order to combine this component with the rates and tax components, two conversions to the data have been made. First, the property values have been converted to annual rates by assuming that rent payable in respect of a property is 6 per cent of the value of the property. Second, a 300 square metre property has been assumed for the determination of the total annual costs of land and accommodation.

A1.1.2.2 Land Tax

Progressive land tax regimes apply in each jurisdiction in which land tax is payable and the rates that apply vary significantly. Land tax applies to the unimproved value of land. A copy of the tax rates that apply is included in Appendix 3.

The index for land tax has been calculated using a range of land values that are representative of average land values in each State. The tax payable in respect of three land sites in each State has been calculated and the average tax payable in respect of the

three sites has been used as the basis for the index. The values of the three sites are the average value of a commercial or industrial site, half the average value and one and a half times the average value. Using the three different values allowed the calculation to reflect changes in the marginal tax rates in each jurisdiction.

Land values used are from the *Commonwealth Grants Commission Report on General Revenue Grant Relativities 1999 Review - Working Papers Volume 2* and relate to 1997-98. The land tax rate used for New South Wales is that which commenced on 1 January 2000.

A1.1.2.3 Municipal Rates

The level of municipal rates has been calculated on the basis of data from two sources. The total amount of rates collected is from ABS data for 1997-98. In order to make a comparison between States, rates per property have been calculated using the number of properties from the Commonwealth Grants Commission's 1999 report.

This measure has a number of shortcomings. Data were only available for combined residential and business properties, which may distort the results. In addition, local government provides different services in each of the States and this may also cause distortions.

A1.1.3 Energy

The energy index comprises three components: electricity prices and reliability of electricity supply, gas costs and fuel costs. Indices have been determined for each of the components and were aggregated using weightings based on industry consumption of each type of energy taken from the 1994-95 national input-output tables.

A1.1.3.1 Electricity Prices and Reliability of Supply

The index for electricity prices has been compiled using data from the Tasmanian Electricity Regulator's *Final Report of the Investigation into Electricity Pricing* (December 1999)³. The data are for the 1998-99 financial year.

The index is based on the retail prices that three representative businesses would face in each of the States. Electricity contracts in New South Wales and Victoria for all customers with consumption above 160 MWh are contestable, so a price range rather than a fixed tariff has been used for these States and a representative price has been calculated as the average of the minimum and maximum prices for each range. Contracts are also contestable in South Australia and Queensland, but to a much lesser extent than in New South Wales and Victoria. Therefore the tariff price has been used for these States.

³ Page 186.

Following the approach adopted by the Regulator, the three representative business are assumed to have:

- annual peak demand of 100kW and a load factor of 30 per cent;
- annual peak demand of 500kW and a load factor of 40 per cent; and
- annual peak demand of 2500kW and a load factor of 60 per cent.

These types of businesses were chosen as they represent a range of businesses in the low, medium and high volume users of electricity categories.

For each State, an arithmetic average of the representative prices (for New South Wales and Victoria) or the tariff prices (for the other States) for each of the representative businesses was taken and used as the basis for calculating an average retail electricity price, which includes transmission, distribution and retail margins.

The index for electricity system reliability has been compiled using data from the Electricity Supply Association of Australia (ESAA) publication *Electricity, Australia 1999*. The measure used is the number of minutes of electricity lost per customer per year and is for 1997-98.

A joint electricity index was calculated by combining the electricity price index and the reliability of supply index using a ratio of 9:1. It was not possible to determine an objective weighting of each factor in this case and the weighting selected is believed to provide a useful guide to the relative importance of each of the factors.

A1.1.3.2 Fuel Prices

Petrol prices were obtained from the Australian Institute of Petroleum (AIP) *Petroleum Gazette*, available from AIP's internet site, which provides a comprehensive breakdown of petrol prices for all States. The monthly report on petrol prices prepared by the Tasmanian Government Prices Oversight Commission contains similar data but the series is incomplete.

The price of unleaded petrol in each capital city was used as a basis for comparison between the States.

A separate diesel price index has not been constructed as the petrol price index is considered an appropriate guide to price relativities for all fuel costs.

A1.1.3.3 Gas Prices

Gas prices have been obtained from the Tasmanian Office of Energy, Planning and Conservation (OEPC). Average industrial natural gas prices for 1998 were used for all States except Tasmania, where there is no natural gas supply. The price of LPG in Tasmania has been converted to gigajoules and used as a basis for comparison of Tasmanian gas prices with mainland gas prices.

A1.1.4 Freight Charges

The freight charges index has been calculated from information collected from a major national transport company.

The index was constructed by combining the cost of freighting a 24 tonne gross container from each capital city to each other capital city. The cost of freight in each case was weighted by the population of each destination capital.

This methodology assumes that the amount of freight destined for each capital city is related to the population in that city. A preferable weighting would be freight movements between capital cities, but this information is not available.

The freight costs for Tasmania have been adjusted to reflect the subsidy that would be received under the Tasmanian Freight Equalisation Scheme.

A1.1.5 Transport-Related Infrastructure

A1.1.5.1 Access to Ports

This index has been calculated on the basis of the proportion of the population of each State that is within 50 kilometres of a major port. The 41 largest ports throughout Australia have been used. Those States that have a relatively high proportion of their population within this distance from ports are considered to have relatively good access to ports.

This index assumes that the location of a State's population is representative of businesses within that State.

A1.1.5.2 Port Charges

The port-charges index has been calculated from data published by the Bureau of Transport Economics (BTE) in its *Waterline* publication for the major ports in each State: Sydney, Melbourne, Brisbane, Adelaide, Fremantle and Burnie. The costs determined by the BTE are based on the costs faced by a ship of a specific size in each port to permit comparison between the States. Stevedoring charges, a major component of port charges, have been included in the BTE's calculations, but a uniform amount is applied across all ports.

The data relate to the period June to December 1996. While more recent data are available for other ports, the data was produced for Burnie on a once-off basis in its 1997 publication.

A1.1.6 Proximity to Markets

This index is based on two elements: the size of the population within 200 kilometres of the capital city in each State and the distance to other major population centres within Australia.

Access to markets is calculated for each State on the basis of the following formula:

$$\frac{\text{OwnPopulation}}{25} * \sum \frac{\text{Population}_i}{\text{Distance}_i}$$

Where:

OwnPopulation = the population within 200 kilometres of the capital city of the State for which the factor is being determined.

Population_i = Population within 200 kilometres of the capital city of the State i, where i is all the other States.

Distance_i = distance in kilometres between the capital cities of State i and the State for which the factor is being determined.

The construction of the index on this basis means that the benefit derived from distant populations reduces at an increasing rate the further that population centre is from the focus State. For example, if population A is twice the distance from the focus State as population B, there is more than twice the benefit derived by the focus State from population B than there is from population A.

An index is then calculated using the factor for the lowest State as a base.

Census data from 1996 have been used in the determination of this index and so the relative position of Tasmania will have worsened in recent years as a result of the reduction in the State's population while the populations of other States continued to grow.

A1.1.7 Resource Endowment

A1.1.7.1 Forestry

The forestry component of this index is based on the proportion of total State land area which is available forest, that is total forest area with allowance made for areas set aside for conservation purposes. This measure reflects potential relative importance of forestry-related industries to each State rather than the absolute amount of the forest resource available in each State. That is, while one jurisdiction may have a greater area of forestry available, it may only represent a relatively small proportion of total land area and therefore forestry activities may not be expected to contribute as much to State production as might be the case in some other States.

A1.1.7.2 Minerals

The mineral resources availability rankings have been calculated on the basis of demonstrated mineral resource data for selected minerals from the Australian Geological Survey Organisation. In order to make the information comparable across States, the amount of demonstrated mineral resources has been divided by the total area of each State.

The rankings have been calculated by taking the average of the rankings for each State

for each mineral.

Endowment of Selected Minerals (Demonstrated Mineral Resources)							
Commodity	Unit	NSW	Vic	Qld	SA	WA	Tas
Copper	Mt copper per hundred million hectares	4.49	0.44	3.76	25.51	0.55	20.65
Gold	tonnes Gold per hundred million hectares	672.41	593.15	243.75	896.34	1 356.56	1 002.95
Iron ore	Mt ore per hundred million hectares	3.74	26.36	141.27	29.47	7 935.45	3 171.09
Nickel	Mt Nickel per hundred million hectares	0.78	0	0.37	0	4.88	0
Tin	kt Tin per hundred million hectares	118.51	0	33.17	0	6.68	1 814.63
Silver	kt Silver per hundred million hectares	7.61	1.32	23.39	6.20	0.87	23.60
Zinc	Mt Zinc per hundred million hectares	9.36	1.32	17.72	0	1.31	17.70
Lead	Mt Lead per hundred million hectares	5.61	0.044	8.05	0	0.55	16.22

Industry-Based Indices

In order to apply the information from the cost-based indices to the selected industries, it has been necessary to determine the relative importance of the cost categories to each of the selected industries. The 1994-95 Australian Input-Output tables produced by the ABS were used to allocate these costs across the relevant industries.

Cost data at an industry level for each State are only available for labour. It is assumed in this analysis that the relative costs for the other inputs (those listed below) are as reflected in the category-based indices presented above. That is, it is assumed that for a given State, the relative cost of a specified input, such as electricity, faced by all that State's industries is as reflected in the electricity cost index. Hence all Victorian industries are taken to face relatively cheap electricity costs and all Queensland industries have low fuel costs.

The following cost categories were included in the industry-based indices. The ABS category and number used to allocate these costs is signified in brackets:

- electricity and gas costs (3601 Electricity; 3602 Gas);
- fuel costs (2501 Petroleum and Coal Products);
- land and accommodation costs (7702 Other Property Services);

- freight (6101 Road Transport; 6201 Rail, Pipeline and Other Transport; 6301 Water Transport, 6401 Air and Space Transport); and
- labour costs (P1 Compensation of Employees).

For each category (except for land and accommodation costs), the level of each input cost as a proportion of the total output for each industry group was measured. This ratio was then multiplied by the computed cost index for each State. The sum of all cost categories was generated for each industry group, with this number then being re-based at 100 for the State with the lowest cost.

Land and accommodation costs are not measured as direct inputs by the ABS in its Input-Output tables, as these inputs are not directly consumed in the production process. While depreciation and rental charges may be appropriate to use, such measures are not provided by the ABS for any major industry for land and buildings. In addition, many businesses actually purchase their own land and buildings and therefore do not pay rent. The ABS, in its Input-Output tables, makes no attempt to “impute” the rental value in these cases. However, the ABS does provide estimates of property services obtained by each industry.

To obtain an estimate of the relative importance of land and accommodation costs, a measure was developed based on information only available in the mining sector. It is assumed that there is a close correlation between land and buildings costs, and the level of property services purchased for all industries.

For the mining industry, the (four year average) national level of capital expenditure on land and buildings is known. It was found that in mining, annual expenditure on land and buildings was around 4.6 times greater than expenditure on property services, both expressed as a proportion of total mining costs. This multiplier factor was then applied to all the other industries to convert the ABS estimate of the expenditure on property services to an estimate of the industries’ expenditure on land and accommodation costs.

It is assumed that property services expenses are proportional to total land and accommodation costs and the property services category is used to allocate land and accommodation costs to industries. While this should provide a reasonable measure of land and accommodation costs in one industry relative to land and accommodation costs in other industries, it does not provide an accurate measure of such costs relative to other inputs within an industry.

In order to determine the relative weighting of land and accommodation costs for each industry the average level of capital expenditure on land and buildings in the mining industry as a proportion of the value of total output of the industry in the four years to 1997-98 was taken. This ratio was then used as a proxy measure of the relative importance of land and accommodation charges to the mining industry.

The new ratio for mining, divided by the previous ratio (developed in the same way as the other cost categories, using the other property services category) was used as a multiplier to determine the relative weighting for land and accommodation costs in each of the other industries. This methodology assumes that the ratio of total land and

accommodation costs to property and business services costs is the same for all industries.

It should be noted that this methodology does not result in land and accommodation having the same weighting across all industries. The purpose of applying the multiplier is to determine an appropriate weighting for land and accommodation costs within each industry based on expenditure on property and business services costs for each industry. Because property and business services costs vary between industries, the calculated weighting for land and accommodation costs will also vary across industries.

The wages data used in the calculations of these indices are for specific occupations within each industry. For example, in the finance and insurance sector, average weekly wages are calculated using wage rates for a range of different occupations within that industry including business and information professionals and clerical staff employed in that sector. The categories of employees for each sector are the same for each State, which helps ensure that the wages figures used do not reflect the structure of the industry in each State. An average wage has been calculated giving equal weighting to each occupation.

Appendix 2 – Component Indices

Direct Labour Cost Component Indices

	NSW	Vic	Qld	SA	WA	Tas
Wages	111	106	105	104	107	100
Payroll Tax	126	109	100	113	103	114
Other Labour Costs	143	126	101	111	123	100

Land and Accommodation Component Indices

	NSW	Vic	Qld	SA	WA	Tas
Rent and Values	202	124	160	109	154	100
Land Tax	2,464	100	2,256	256	1,079	893
Municipal rates	148	116	128	127	136	100

Appendix 3 – Land Tax and Payroll Tax

Extract from: *Interstate Comparison of Taxes 1999-2000*
Office of Financial Management
New South Wales Treasury
December 1999

	NSW	Vic	Qld	WA	SA	Tas	NT	ACT
PAYROLL TAX								
Basic Flat Rate:	6.4% (Effective 1 July 1999) 6.2% (Effective from 1 July 2001) 6.0% (Effective from 1 July 2002)	5.75% (Effective 1 July 1999)	5% 4.9% (Effective from 1 July 2000) 4.8% (Effective from 1 July 2001)	Marginal rates apply (see below)	6%	6.6%	6.75%	6.85%
Method of calculation of Tax:	Single Marginal Rate	Single Marginal Rate.	Deduction System	Marginal Rates	Single Marginal Rate	Single Marginal Rate	Single Marginal Rate	Single Marginal Rate
Tax Scale and Small Business Concession:	First \$600,000 exempt	First \$515,000 exempt	First \$850,000 exempt. Deduction reduces to Nil between \$850,000 and \$3.4m.	\$0 -\$0.675m: Nil \$0.675m-\$2.7m: 4.87% of excess \$2.7m-\$4.5m: \$98,550 + 6.03% of excess \$4.5m-\$5.625m: \$207,000 + 9.4% of excess >\$5.625m: 5.56% Flat	First \$456,000 exempt	First \$600,000 exempt	First \$600,000 exempt	First \$800,000 exempt
	Employer superannuation contributions included in the tax base.	Employer superannuation contributions included in the tax base.	Employer superannuation contributions included in the tax base from 1 January 2000.		Employer superannuation contributions included in the tax base.	Employer superannuation contributions included in the tax base.	Employer superannuation contribution and fringe benefit included in the tax base.	Employer superannuation contributions included in the tax base.
Reference Period:	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll, including superannuation and non remote fringe benefits.	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll.	Receipts relate to the previous month's payroll.

	NSW	Vic	Qld	WA	SA	Tas	NT	ACT
LAND TAX								
Tax Scale: Marginal rates apply to excess above the lower limit of the range unless explicitly specified.	From 31/12/99 Less than \$192,000: Nil not less than \$192,000: \$100+1.7%. Threshold indexed annually to estimated increases in State-wide land values for commercial, industrial and residential properties. (No adjustment if state-wide land values decline).	Less than \$85,000: Nil \$85,000-\$200,000: \$85 and 0.1c for each \$1 of the value that exceeds \$85,000 \$200,000-\$540,000: \$200 and 0.2c for each \$1 of the value that exceeds \$200,000 \$540,000-\$675,000: \$880 and 0.5 cents for each \$1 of the value that exceeds \$540,000 \$675,000-\$810,000: \$1,555 and 1 cent for each \$1 of the value that exceeds \$675,000 \$810,000- \$1,080,000: \$2,905 and 1.75 cents for each \$1 of the value that exceeds \$810,000 \$1,080,000-\$1,620,000: \$7,630 and 2.75 cents for each \$1 of the value that exceeds \$1,080,000 \$1,620,000-\$2,700,000: \$22,480 and 3 cents for each \$1 of the value that exceeds \$1,620,000 \$2,700,000 and over: \$54,880 and 5 cents for each \$1 of the value that exceeds \$2,700,000	\$200,000# deduction for all natural persons (exemption threshold of \$100,000 for companies, trustees and absentees). All land tax payers receive a general 15% rebate from 1999-2000 onwards. Up to \$3,999: 0.20% \$4,000-\$5,999: \$8+0.36% \$6,000-\$9,999: \$15.20+0.52% \$10,000-\$29,999: \$36+0.70% \$30,000-\$49,999: \$176+0.87% \$50,000-\$199,999: \$350+1.03% \$200,000-\$349,999: \$1,895+1.20% \$350,000-\$499,999: \$3,695+1.37% \$500,000-\$649,999: 5,750+1.54% \$650,000-\$799,999: \$8,060+1.71% \$800,000-\$949,999: \$10,625+1.89% \$950,000-\$1,099,999: \$13,460+2.01% \$1,100,000-\$1,249,999: \$16,475+2.23% \$1,250,000-\$1,299,999: \$19,820+2.44% \$1,300,000-\$1,349,999: \$21,040+2.66% \$1,350,000-\$1,399,999: \$22,370+2.87% \$1,400,000-\$1,449,999: \$23,805+3.09% \$1,450,000-\$1,499,999: \$25,350+3.30% \$1,500,000 and over: 1.8% Flat. See note below	\$0-\$10,000: Nil \$10,001-\$100,000: \$15+0.15% of excess \$100,001-\$190,000: \$150+0.25% of excess \$190,001-\$325,000: \$375+0.45% of excess \$325,001-\$550,000: \$982.50+0.8% of excess \$550,001-\$850,000: \$2,782.50+1.2% of excess \$850,001-\$1,250,001: \$6,382.50+1.6% of excess over \$1,250,001: \$12,782.5+2.0% of excess. The Metropolitan Region Improvement Tax is levied on the unimproved value of land situated in the metropolitan region at the rate of 0.15c per \$1.	\$0-\$50,000: Nil \$50,001-\$300,000: 0.35% \$300,001-\$1m: \$875+1.65% Over \$1m: \$12,425+3.7%	1997-98 \$0-\$1,000: Nil \$1,001-\$15,000: \$25.00 \$15,001-\$40,000: \$25.00+0.75% \$40,001-\$68,750: \$212.50+1% \$68,751-\$100,000: \$500.00 \$100,001-\$125,000: \$500.00+1.25% \$125,001-\$170,000: \$812.50+1.5% \$170,001-\$210,000: \$1,487.50+1.75% \$210,001-\$250,000: \$2,187.50+2% \$250,001-\$500,000: % Exceeding \$2,987.50+2.25 \$500,000: \$8,612.50+2.5%	Not imposed	Up to \$100,000: 1% Flat \$100,001-\$200,000: 1.25% Flat above \$200,000: 1.5% Flat (upon unimproved value). Liability is assessed quarterly.
EXEMPTIONS:								

	NSW	Vic	Qld	WA	SA	Tas	NT	ACT
LAND TAX								
Primary Residence:	Exempt, apart from places of principal residence whose unimproved land value is not less than \$1,234,000 (from 31.12.98) which are liable at the rate of \$100 + 1.7% of the value in excess of \$1,234,000. Threshold indexed annually to estimated increase in Sydney residential values. (No adjustment if Sydney values decline).	Principal place of residence Exemptions available to various charitable organisations upon qualification.	Exempt with conditions	Exempt	Exempt	Exempt		Exempt, apart from parcels of land with more than one dwelling where one or more of the dwellings are rented.
Primary Production Land:	Exempt	Exempt with conditions	Exempt with conditions	Exempt	Exempt	Exempt		Exempt
Reference Period:	Based on value of land as at 1 July of the previous year.	Based on aggregate value of land owned as at midnight 31 December of the previous year to the assessment year.	Based on value of land as at midnight on 30 June of the previous year. #: Resident natural persons receive a deduction of \$200,000 from the total unimproved value of land before arriving at the taxable value.	Based on value of land as at 30 June of the previous year.	Based on value of land as at 30 June of the previous year.	Based on value of land as at 30 June of the previous year.		Based on the rolling three year average of property values.

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