

Tourism Expenditure by International Visitors in Regional Australia

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1 Introduction

This is a Bureau of Tourism Research (BTR) working paper which presents a summary of a regional expenditure estimation model described in a forthcoming BTR Occasional Paper (Tulpulé, 1999). This paper also includes some illustrative results for two States.

Tourism activity is a major contributor to the Australian economy. Expenditure by tourists generates economic activity and employment. In 1995-96 expenditure derived from domestic tourism was \$41.9 billion (Office of National tourism, 1999).

According to the 1997 International Visitor Survey (BTR, 1998), in 1997, international visitors aged 15 and over spent \$14.9 billion on their trips to Australia. Of this \$7.3 billion was spent in Australia. This is equivalent to \$1953 per visitor or \$84 per visitor night. In 1997 expenditure by the international package tourists was \$5.3 billion and a part of that amount was also for expenditure on goods and services obtained in Australia. As the visitors on package tours pay this amount before coming to Australia, they are likely to have spent relatively little out of pocket while in Australia. However, a substantial proportion of that amount would have been paid to operators in the Australian tourism and hospitality industry.

The expenditure by visitors to a region on goods and services such as accommodation, food, transport and souvenirs is injected into the regional economy and provides a stimulus to the region's income and employment. From a regions' viewpoint expenditure by international visitors can always be regarded as an injection of funds from outside. At the same time, for the smaller region, there is greater likelihood of leakages associated with goods and services imported from outside the region.

For example, in the context of Hallmark events such as the 1985 Adelaide Grand Prix, Dr Bill Faulkner (1993) commented that the expenditure of visitors to Adelaide from within the state was not taken as an economic contribution to the South Australian economy because the "expenditure did not constitute a gain to the state's economy as a whole, but simply involved a redistribution of income within the state. On the other hand, expenditure by interstate and international visitors was taken into account as the servicing of their needs in effect constituted export income at the state level."

Recently, Mr David Hamill, the Queensland Treasurer, quoted a Tourism Forecasting Council estimate of 337,000 additional international tourists coming to Queensland between 1999 and 2001 and commented that "... this magnitude would yield around 20,000 new jobs in Queensland and help the Government in its push to lower the State's unemployment ..."(Lekakis, 1999).

Given this link between expenditure by visitors to a region and economic benefits to the region's income and employment there is a demand for estimates of expenditure by State & Territory and by region. While aggregate data on expenditure by international visitors to Australia have been available for some years, information on the distribution of the

aggregates to States and regions is not available

In order to address the problem of the lack of this information at the State, Territory and regional level, the Bureau of Tourism Research (BTR) included some extra questions in the 1997 International Visitor Survey (IVS) survey questionnaire. That information has been analysed to produce for the first time, consistent estimates of expenditure by international visitors in Australian States and Territories and, in the major Australian tourism regions.

The purpose of this paper is to report on a regional expenditure estimation model developed by the BTR and present some illustrative results from the application of that model to data from the 1997 IVS. The outline of the rest of the paper is as follows. In Section 2 the IVS survey method is described briefly and information on expenditure collected in the 1997 survey is assessed. Alternative methods considered for estimating regional expenditure are discussed in Section 3. The BTR model used for allocating total expenditure by each visitor to regions visited is discussed in Section 4. Section 5 includes some illustrative results and brief comments on the results for two States. Concluding remarks and some plans for future work are included in Section 6.

2 The 1997 International Visitor Survey (IVS)

The regular survey of international visitors to Australia conducted by the Bureau of Tourism Research is the major source of information on the personal characteristics, travel behaviour and expenditure patterns of international visitors aged 15 years and over. The IVS covers only short-term visitors, ie. visitors who stay in Australia for less than 12 months. Until 1996 a sample of around 12,000 visitors was surveyed each year. From 1997, this sample has been increased to 20,000 visitors (19,605 valid interviews in 1997). Interviews take place in Australia's major international airport departure lounges in Sydney, Melbourne, Brisbane, Cairns, Adelaide, Perth and Darwin. The interviews are conducted in departure lounges while the respondent is waiting to board an international flight.

Out of the 4 million international visitors to Australia, the 20,000 interviewed represent a sample of 0.5 per cent of total visitors. Therefore the results published from the survey are subject to sampling errors. In making population estimates from IVS survey data, each visitor in the sample is attached a weight. The weight is based on visitors' characteristics and is estimated in a three stage process using three visitor classifications:

- Visitor's port of departure from Australia by overseas destination;
- Visitor's age, sex and country of origin; and
- Visitor's port of arrival by country of residence and by purpose of visit.

In the IVS, international visitors surveyed are asked to provide information on expenditure on their trip to Australia; that is, payments made before coming to Australia for pre-paid package tours and for international airfares to and from Australia; and also on expenditure while in Australia. These estimates are for Australia as a whole. In addition to this information on expenditure in Australia as a whole, for the first time in 1997 respondents were asked two extra questions on expenditure in a selected location.

The first extra question asks the visitor how much of the total expenditure was spent in a randomly selected location and, the second question asks how much of the Australian and pre-paid accommodation expenditure was spent in that location. Answers to the first question provide the main source of information on total expenditure in selected locations that has been used for the model described in this paper.

Details of survey methodology and results are published in International Visitor Survey (BTR, 1998). Estimates of total expenditure and items of expenditure by international visitors for 1997, classified by various characteristics of visitors, are also given in that publication.

2.1 Which items of expenditure have been allocated to regions?

In the International Visitor Survey, information on the following categories of expenditure is collected.

- total cost of pre-paid package tours;
- cost of international airfares to and from Australia paid before coming to Australia;
- expenditure while in Australia on a list of items such as accommodation, food & drink, transport, entertainment, etc and *total expenditure in Australia*; and prepayments for the same set of items and *total prepayments*.

As the estimate of expenditure in a region is interpreted as an indication of regional economic activity, it is important to decide which items of expenditure should be allocated to regions and which ones should be excluded from the calculation.

Pre-paid package tours

International visitors to Australia paid \$5.3 billion to overseas package tour operators. Depending on the cost of air fares from the country the visitor came from and the characteristics of the Australian tour (length of stay, type of accommodation, activities while in Australia, etc.) it is likely that a substantial part of the amount paid overseas would be paid to firms in the Australian tourism and hospitality industry. Therefore a part of the expenditure of \$5.3 billion should be allocated to regions in Australia. However, this has not been done at this stage.

Pre-paid international airfares

International visitors to Australia spend almost \$3.5 billion on pre-paid international air fares. While in theory, a part of the cost of international airfares will be spent by the airline on items such as landing fees at Australian airports, in practice, it is not possible to allocate that amount to an Australian region. Therefore, international airfares are not allocated to Australian regions.

Expenditure while in Australia and prepayments

The survey obtains separate estimates of amounts spent on the following items:

1. Organised tours
2. International airfares bought in Australia
3. Domestic airfares

4. Other transport fares
5. Self-drive cars, rent-a-car, campervans
6. Petrol & oil costs for self drive cars or other vehicles
7. Shopping – items for use in Australia
8. Shopping – items to be taken home
9. Accommodation
10. Food & drink
11. Food, drink and accommodation inclusive
12. Horse racing and gambling
13. Entertainment
14. Motor vehicles purchase
15. Capital goods
16. Education fees
17. Phone, fax and postage
18. Other expenses

Four of the above items (international airfares bought in Australia, domestic airfares, motor vehicles purchase and capital goods) have not been allocated to regions.

Expenditure on air fares has not been allocated to regions because even when air fares are paid in a given region, the associated expenditure can not be interpreted as having the same type of significance for the region's economy as the expenditure on consumable items. For example, a visitor may pay for air travel between Melbourne, Hobart and Perth at a travel agent in Sydney. While the travel agent does earn an income from this transaction, a significant part of the air fare cannot be considered as expenditure in Sydney simply because the payment was made in Sydney. In 1997 international visitors spent \$208 million on air fares while in Australia (\$129.3 million for international travel and \$78.4 million for travel within Australia). This is equivalent to \$60 per visitor. However, most visitors did not purchase airfares in Australia. For visitors who did spend on air fares the average was almost \$1500.

Expenditure of a capital nature has also not been allocated to regions because even when a capital item is purchased in a given region, the associated capital expenditure can not be interpreted as having the same type of significance for the region's economy as the expenditure on consumable items. Moreover, expenditure on these items tends to be lumpy and can affect the reliability of the estimates. Examples of capital expenditure include property, motor vehicles, office equipment and electronic goods. In 1997 international visitors spent \$349 million on motor vehicles and other capital items combined. This is equivalent to just under \$90 per visitor. However, most visitors did not purchase these items. For visitors who did purchase motor vehicles and capital goods, the average was almost \$11,700. For visitors from Hong Kong and Malaysia the figures were \$36,000 and \$28,000 respectively.

In view of the above discussion, expenditure on air fares and expenditure on motor vehicles and other capital items has not been allocated to regions. Almost all other items of expenditure such as accommodation, food, drink, entertainment, gambling, souvenirs, other goods purchased to take home and education fees are largely location specific and have been allocated to regions.

2.2 How many regions?

The 1997 IVS data base contains 82 regions. The number of regions in States and Territories are shown in Table 2.1.

Table 2.1: The number of regions in States and Territories

State	No. of regions
New South Wales	17
Victoria	10
Queensland	14
South Australia	12
West Australia	12
Tasmania	7
Northern Territory	9
Australian Capital Territory	1
Australia	82

Source: IVS 1997 (BTR, 1998)

Table 2.2 gives the number of visitors and visitor nights for the top ten regions in 1997.

Table 2.2: Visitors and visitor nights in top ten regions

Region	Visitors (‘000)	Nights (‘000)	Per cent	Nights/ Visitors
Sydney - NSW	2316	26365	28.8	11.4
Gold Coast - Qld	995	5315	5.8	5.3
Melbourne - Vic	951	15628	17.1	16.4
Far North - Qld	731	4752	5.2	6.5
Brisbane - Qld	688	6097	6.7	8.9
Perth - WA	468	7845	8.6	16.8
Adelaide - SA	254	3199	3.5	12.6
Petermann - NT	234	500	0.5	2.1
ACT	197	1980	2.2	10.1
Alice Springs - NT	195	715	0.8	3.7
Total Top10 regions	7029	72396	79.2	10.3
Total Australia	3969 ^(a)	91405	100.0	23.0

Source: IVS 1997 (BTR, 1998)

(a) Total number of visitors to regions exceeds the total number of visitors to Australia because, on average, each visitor visited 2.5 regions.

Table 2.2 shows that in 1997, the top ten regions accounted for 79 per cent of visitor nights. Therefore it is likely that a very high proportion of expenditure by international visitors, say 70 to 80 per cent, was spent in these 10 regions. The remaining 20 to 30 per

cent of the expenditure is likely to be distributed in the remaining regions in the six States and the Northern Territory. Each visitor, on average spent 23 nights in Australia. Visitors tend to stay longer in Capital cities and relatively short periods in the regions outside the Capital cities.

For international visitors, Sydney is the main port of entry to Australia. As in previous years, in 1997, Sydney was the top visited region receiving 2.3 million international visitors. This was followed by the Gold Coast, which received just under one million visitors. The third top destination, Melbourne received 951,000 international visitors. The next two regions were Far North Queensland (731,000) and Brisbane (687,000). Thus three of the top five top regions were in Queensland. In 1997 there were 18 regions that received more than 100,000 international visitors of which eight were in Queensland.

At the other end of the scale there are some regions that have been visited by few international visitors. Examples of such regions are Murraylands, Mid-North and Yorke Peninsula in South Australia; the Northern region in Tasmania and Arnhem in the Northern Territory which all are estimated to have received less than 5000 international visitors in 1997. Given that the sampling fraction in IVS 1997 was 0.5 per cent, on average, an estimate of 5000 visitors to a region is likely to have been based on a sample of about 25 respondents in the survey. Estimates of numbers, visitor nights and expenditure based on small samples have high sampling errors. Therefore it will not be possible to make reliable expenditure estimates for the lesser visited regions and hence such regions have been grouped.

3. Methods of estimation of regional expenditure

Until recently, consistent estimates of tourism expenditure at the State and Regional level were not available in Australia. In order to fill the gap in available information in Australia BTR devised a 'top down' method of distributing the total expenditure in Australia by international visitors to all States and Territories. Preliminary estimates for 1993 were published in late 1994 (BTR 1994). This method did not allocate expenditure on pre-paid package tours to States and Territories. Revised estimates which allocated the 1993 total expenditure including expenditure on pre-paid package tours to States and Territories were published in early 1995 (BTR, 1995). The method used in making these estimates assumed that visitors from each country spend about the same amount of money each day irrespective of the region in which the visitor stays. With this assumption, using estimates of expenditure per night for visitors from each country and the estimates of number of visitor nights by country of residence in each State and Territory, estimates of expenditure were made.

There are obvious disadvantages in using this type of 'top down' method for estimating expenditure at the regional level. There are major differences between the cost of living for the visitors to a rural region compared to capital cities or major tourist resorts.

Given that the IVS collected some information on expenditure at the regional level for one randomly selected region, a 'bottom up' approach was developed in which estimates are derived from unit records for each respondent in the survey.

BTR considered two possible regional expenditure estimation methods using the 'bottom up' approach that may be applied to the 1997 IVS data.

1. Based on estimates for the randomly selected locations; and
2. Based on estimates for the randomly selected locations combined with information on total expenditure in Australia provided by each respondent.

The first approach does not make use of all the information provided by the visitor, in particular information on total expenditure in Australia. In addition, information on total expenditure in Australia is likely to be more reliable than information on expenditure at a randomly selected location. Therefore, the first approach is likely to provide rather unreliable and biased estimates. The second approach makes full use of data on total expenditure and location specific expenditure and other information available from the survey and was adopted as the basis for the methodology.

3.1 BTR Regional Expenditure Estimation Model

For a given visitor, an estimate of total expenditure, and expenditure in a selected location is available from the 1997 IVS. If this visitor has visited only two locations in Australia, an estimate of expenditure at the second location can be obtained by subtraction. The majority of international visitors to Australia visit less than three regions. In 1997 some 71 per cent of visitors visited one or two regions. Thus it is possible to get complete information on the regional distribution of expenditure for 71 per cent of visitors.

The survey provides data on the duration of stay (nights) at each stop and hence in each region visited by the respondent. Thus it is possible to make an estimate of expenditure per night for each visitor for his or her randomly selected location. For the visitor who visited only two regions it is possible to make an estimate of expenditure per night for the second region visited. These estimates of expenditure per night form the basis for calculating a regional cost index. The index is described in Section 4.3. The index provides an indication of differences in cost per day between regions.

For each respondent, the model makes initial estimates of expenditure in each region visited as a product of duration of stay and the regional cost index. These initial estimates are then used to recalculate the regional cost index in an iterative process. Final estimates are obtained when the iterative process converges. Final estimates of expenditure in each region visited by each respondent are obtained by multiplying nights in the region and the final estimate of the cost index for the region. For each region the total expenditure is the weighted sum of expenditures by all visitors to that region. This modelling process is described in detail in the next section.

4. BTR modelling and programming approach

Each unit in the original unit record file contains information on all the variables from the IVS questionnaire. From this information, data required for modelling are selected and separate data files are created for respondents with long or short interviews.

4.1 Long and short interviews

All survey respondents were expected to provide information on total expenditure in Australia and also on expenditure in one randomly selected location. However in practice, not all respondents were able to provide information on expenditure in a selected location. This is because those respondents who are called to board the aircraft are unable to complete the interview. They are not excluded from the sample if they have answered all the core questions. Such responses are defined as 'short interviews' (in the 1997 IVS data file about ten per cent of respondents are in this category.) Respondents who had answered all questions including questions on regional expenditure are defined as 'long interviews'.

4.2 Regional cost index

All visitors have provided data on duration of stay (number of nights) in regions they visited. Therefore it is possible to make an initial estimate of expenditure in each region by multiplying the number of nights by a regional cost index. Calculation of a regional cost index is the first step in obtaining information on the differences in cost per night between regions. An index of cost per night in region j (R_j), is estimated for long interview respondents from data on amount of expenditure and duration of stay in selected region.

The regional cost index for region j , R_j is defined as the weighted average of expenditure per night in region number j , for all visitors who had provided expenditure data for region number j either directly or indirectly. Note that this is not the final estimate of cost per night in region j . However it is used as an initial value of an index of cost per night in region j .

4.3 Initial estimates of regional expenditure for each visitor

Long interview visitor

Information on expenditure in the randomly selected region by the i th respondent in region k , E_{ik} , is provided by the respondent. Estimate for region j , E_{ij} , ($j=1$ to n except for $j=k$) is calculated as:

$$X_{ij} = D_{ij} * R_j * ANSFOR_i; \quad (1)$$

$$E_{ij} = X_{ij} * (E_i - E_{ik}) / \sum (X_{ij}); \text{ summed over } j=1 \text{ to } n \text{ except for } j=k; \quad (2)$$

Where

E_i = Total expenditure in Australia by the i th visitor;

$ANSFOR_i$ = Number of persons in the group for whom the amount of expenditure has been reported by the respondent;

D_{ij} is duration of stay of the i th visitor in region j ; and

R_j is the index of cost per person per night in region j .

Short interview visitor

Information on regional expenditure in a randomly selected region by the short interview respondent is not provided by the respondent. An estimate for region j , E_{ij} , ($j=1$ to n) is calculated as:

$$E_{ij} = X_{ij} * (E_i.) / \text{sum}(X_{ij}); \text{summed over } j=1 \text{ to } n; \quad (3)$$

Where

$E_i.$, D_{ij} and R_j have the same meaning as in the case of long interview visitors.

Having made an initial estimate of expenditure by each visitor in each region visited, it will be possible to estimate the total expenditure in each region by all visitors as a weighted sum of individual expenditure estimates.

Initial estimates of total expenditure by all visitors to region j

An initial estimate of total expenditure in region j by all visitors, REX_j , is given by:

$$REX_j = \text{sum}(W_i * E_{ij}); \text{summed over all visitors.} \quad (4)$$

A revised regional cost index for region j , RR_j , is obtained as the ratio of the initial estimate of total expenditure in region j by all visitors and the total number of nights spent by all visitors in region j .

$$RR_j = REX_j / \text{sum}(W_i * D_{ij}), \text{summed over all } i\text{'s.} \quad (5)$$

RR_j is a revised index of cost per night in region j . It is estimated from data on amount of expenditure and duration of stay in all regions estimated above for all respondents. This index provides a more accurate reflection of relative costs than the initial estimate, R_j because it is based on expenditure estimates for all regions visited by all visitors instead of expenditure in the selected location only.

The revised cost index RR_j is used in the place of the initial value R_j in equation (1) and equations (2) to (5) are recalculated in an iterative process. The iterative process is completed when the final values of REX_j obtained from equation (4) are not significantly different from the previous iteration.

The final estimates of expenditure in each region are obtained by aggregating the final E_{ij} values in the unit record file calculated as a weighted sum of all visitors.

5. Results

5.1 Aggregate results

The preliminary estimates of expenditure for States and Territories presented in Table 5.1 exclude expenditure on air fares and on capital items. These estimates will be revised in the near future and the revised estimates will be published later this year in a BTR Occasional Paper (Tulpulé, 1999). The estimates presented in this paper are obtained by applying the model to the 1997 unit record files. (They differ slightly from the data published in BTR (1998).)

Preliminary Estimates

Table 5.1: Expenditure by international visitors in Capital Cities and in Regional Australia, 1997

Expenditure excluding capital items and airfares (Pre-paid and in Australia) ^(a)						
		Capital city	Regional areas		State total	
		\$ million	\$ million	% of State	\$ million	%
New South Wales	Sydney	2485.1	295.8	10.6	2780.9	36.9
Victoria	Melbourne	1154.8	93.3	7.5	1248.1	16.6
Queensland	Brisbane	421.2	1755.4	80.6	2176.6	28.9
South Australia	Adelaide	202.3	35.5	14.9	237.8	3.2
Western Australia	Perth	620.9	64.3	9.4	685.2	9.1
Tasmania	Hobart	51.6	44.3	46.2	95.9	1.3
Northern Territory	Darwin	46.0	142.1	75.5	188.1	2.5
A.C.T.	Canberra	120.9	0.0	0.0	120.9	1.6
Total excl. cap & airfares		5102.8	2430.7	32.3	7533.5	100.0
Other expenditure in Australia ^(b)						
Capital Items					348.7	
Air fares					207.7	
Expenditure on package tours ^(c)					5317.1	

(a) Estimates derived from IVS 1997 unit records and BTR model

(b) International Visitor Survey 1997 (BTR, 1998)

(c) IVS 1997, Amounts spent overseas include payments for services in Australia

In 1997 international visitors spent \$7.5 billion in Australian States and Territories. Out of the \$7.5 billion, thirty seven per cent was spent in New South Wales, 29 per cent in Queensland and 17 per cent in Victoria. A third of the total amount was spent in regional Australia and the rest, \$5.1 billion, in capital cities.

In most States a very small proportion of expenditure is outside the State Capital. In the case of Victoria and Western Australia, less than ten per cent of the amount was spent in regions outside the capital cities and for New South Wales the figure was just over ten per cent. Queensland and the Northern Territory are the two main exceptions. Over 80 per cent of the expenditure in Queensland was spent in regional Queensland and only 20 per cent in Brisbane. Brisbane's low percentage reflects the spread of tourism activity throughout Queensland, with the Gold Coast attracting almost 40 per cent of the State's international tourist dollar. In the Northern Territory, Darwin's share was 25 per cent and over 75 per cent was spent in regional areas, again reflecting the spread of tourism in many regional areas of the Territory.

The amount of expenditure distributed to States and Territories does not include the amounts paid indirectly by international visitors who came to Australia on package tours. Overseas package tour operators who received \$5.3 billion from international visitors to Australia have probably paid a significant part of this amount to firms in the Australian tourism and hospitality industry for services provided while the visitors were in Australia. Depending on the cost of air fares from the country the visitor came from, and the

characteristics of the Australian tour (length of stay, type of accommodation, activities while in Australia, etc.), it is likely that a substantial part of the amount paid overseas would be paid to firms in the Australian tourism and hospitality industry.

5.2 Illustrative results for regions within States

Preliminary results for regions in Queensland and in South Australia are presented below. Table 5.2 presents estimates of total expenditure excluding expenditure on air fares and capital items in the 15 Queensland tourism regions, estimated from the BTR model.

Preliminary Estimates

Table 5.2: Expenditure by international visitors in Queensland regions^(a)

Expenditure excluding capital items and airfares (Pre-paid and in Australia) ^(b)		
Queensland regions	Expenditure \$ million	Per cent
Gold Coast	887.1	40.8
Brisbane	421.2	19.4
Sunshine Coast	56.1	2.6
Gympie / Maryborough	16.4	0.8
Darling Downs	13.2	0.6
Bundaberg	4.7	0.2
Fitzroy	21.8	1.0
Mackay	4.9	0.2
Whitsundays	87.0	4.0
Northern	35.0	1.6
Far North	602.6	27.7
Great Barrier Reef North	16.3	0.7
Outback	2.4	0.1
Great Barrier Reef South	8.0	0.4
Total Queensland	2176.6	100.0

(a) Estimates of expenditure by international visitors exclude expenditure on motor vehicles, capital items and airfares, and also exclude amounts paid by overseas package tour operators to firms in the Australian tourism and hospitality industry on behalf of visitors on package tours.

(b) Estimates derived from IVS 1997 unit records and BTR model.

- Three of the 15 tourism regions in Queensland; Gold coast, Brisbane and Far North, account for over 85 per cent of the State total.
- It is possible to make reliable estimates of expenditure for the other twelve tourism regions in Queensland because all regions have been visited by a significant number of international visitors resulting in acceptable IVS sample sizes for each of the Queensland regions. The least visited region - Great Barrier Reef South received almost 19,000 visitors in 1997.

- As expenditure while on a day trip is allocated to the region where the visitor spent the night, there is likely to be a problem of misallocation of expenditure for the Gold Coast and Brisbane. However this may not be a serious problem given the possibility of flows of day trippers in both directions.

Queensland received almost \$2.2 billion, or 29 per cent of the total spent by international tourists in Australia. By contrast, South Australia received only \$238 million or 3.2 per cent of the Australian total. In South Australia there are 12 tourism regions. Table 5.3 presents estimates of total expenditure excluding expenditure on air fares and capital items in five South Australian tourism regions and for the 'rest of South Australia' which includes the total for the remaining seven regions.

Preliminary Estimates

Table 5.3: Expenditure by international visitors in South Australian regions ^(a)

Expenditure excluding capital items and airfares (Pre-paid and in Australia) ^(b)		
South Australian regions	Expenditure \$ million	Per cent
South East	2.4	1.0
Adelaide	202.3	85.1
Flinders Ranges	3.5	1.5
Far North	11.2	4.7
Kangaroo Island	5.6	2.3
Rest of South Australia ^(c)	12.7	5.3
Total South Australia	237.8	100.0

(a) Estimates of expenditure by international visitors exclude expenditure on motor vehicles, capital items and airfares and also exclude amounts paid by overseas package tour operators to firms in the Australian tourism and hospitality industry on behalf of visitors on package tours.

(b) Estimates derived from IVS 1997 unit records and BTR model.

(c) 'Rest of South Australia' includes the following regions: Murraylands, Fleurieu Peninsula, Barossa Valley, Riverland, Mid North, Eyre Peninsula and Yorke Peninsula.

- While most regions in Queensland receive a significant part of the State's total expenditure, most of the expenditure in South Australia is in Adelaide, which accounts for over 85 per cent of State total.
- It is not possible to give separate results for seven of the 12 tourism regions in South Australia because these seven regions are visited by only a small number of international visitors and IVS sample sizes for these regions are too small. Five of these seven regions were visited by less than 10,000 international visitors in 1997; and the other two by less than 15,000.
- As discussed earlier, visitor expenditure is allocated to regions on the basis of where each night was spent. This could lead to an under estimation of expenditure for

Barossa Valley, Fleurieu Peninsula and 'Rest of South Australia', and an over estimation for Adelaide.

6 Concluding remarks

The expenditure by visitors to a region on goods and services is injected into the regional economy and provides a stimulus to the region's income and employment. Given this link between expenditure by visitors to a region and economic benefits to the region's income and employment, there is a demand for estimates of expenditure by State and Territory and by region.

Aggregate data on expenditure by international visitors to Australia have been available for some years. However, information on the distribution of the aggregates to States and regions is not available. To address the lack of this information at the State, Territory and regional level, the BTR included some extra questions in the 1997 IVS survey questionnaire. Using that information, for the first time, consistent estimates of expenditure by international visitors in Australian States and Territories and, in the major Australian tourism regions have been made.

In 1997 international visitors spent \$7.5 billion in Australian States and Territories. This amount does not include the amounts paid by overseas package tour operators to the Australian tourism and hospitality industry. Overseas package tour operators received \$5.3 billion from international visitors to Australia. It is likely that a substantial part of the amount was paid to firms in the Australian tourism and hospitality industry.

Of the \$7.5 billion expenditure by international visitors, one third was spent in regional Australia and the rest, \$5.1 billion, in Capital cities. Thirty seven per cent was spent in New South Wales, 29 per cent in Queensland and 17 per cent in Victoria.

In most States a very high proportion of expenditure is in the State Capital. Queensland and Northern Territory are the two main exceptions. Over 80 per cent of the expenditure in Queensland was spent in regional Queensland and only 20 per cent in Brisbane. Brisbane's low percentage reflects the spread of tourism activity throughout Queensland, Gold Coast attracting almost 40 per cent of State tourist expenditure. In the Northern Territory, Darwin's share was 25 per cent and over 75 per cent was spent in regional areas, again reflecting the spread of tourism in many regional areas of the Territory.

Preliminary estimates for States and Territories and for regions in Queensland and South Australia made by using the BTR model are presented in this paper for the purpose of illustration. While most regions in Queensland receive a significant part of the State's total expenditure, most of the expenditure in South Australia is in Adelaide, which accounts for over 85 per cent of State total. Estimates for regions in all States and Territories will be published in a BTR occasional paper in the near future.

It is expected that the model presented here will be applied to the 1998 IVS data later this year. When the data files produced by the model become available for further analysis, BTR will be in a position to provide in-depth analysis of the relationships between tourism patterns and tourism expenditure in regional Australia.

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