Australian Government
Austrade

TOURISM RESEARCH AUSTRALIA

EXPLANATORY NOTES

1. SMOOTHING OF ESTIMATES FOR SMALLER TOURISM REGIONS

Rationale

The Regional Tourism Satellite Accounts – the RTSA – provide estimates of tourism economic measures against gross domestic product (GDP), gross value added (GVA) and employment for each of Australia's 77 tourism regions.

Underpinning these estimates are spend data from the International Visitor Survey (IVS) and National Visitor Survey (NVS).

Geographically, however, tourism across Australia is highly variable. For example, there is more money spent in our six most visited regions than in the rest of Australia.

As some tourism regions do receive lower levels of visitation, the spend data from the IVS and NVS is very limited, making RTSA estimates less reliable. The lack of reliable data for these regions means:

- economic and employment measures will be subject to more variability from year to year
- - variability in these measures is more likely due to limitations in the data rather than any change in visitation to the region
- the underlying growth trend is more difficult to identify.

A straightforward way of addressing these issues is to smooth the data using a simple and consistent approach.

Approach

After analysing historical RTSA data and consulting with states and territories, the following approach was developed for smoothing.

Measure the 'volatility of employment' (VE) and 'volatility of GVA' (VG) for each tourism region over the period 2006–07 to 2017–18 using the following formula:
VE = Standard Deviation of annual change in persons directly employed in tourism

- VG = Standard Deviation of annual change in direct tourism GVA.

Measure the average sample size (S) for each region using a combined NVS and IVS sample for the last three financial years.

Apply smoothing if:

- VE is greater than 10% or VG is greater than 10% and S is less than 500.

Based on the above, apply a three-year moving average to smooth the following estimates:
Tourism employment

- Tourism GVA
- Tourism GRP.

For example, the smoothed GVA estimate for 2017–18 would be the average of the original estimates for GVA and for 2015–16, 2016–17 and 2017–18.

However, the trade-off in using this approach is that a time series based on a three-year moving average of smoothed data is two years shorter than a time series of unsmoothed data.

Regions affected by smoothing:

A total of 19 regions were affected by smoothing. These comprised:

NSW	Outback NSW
Victoria	Wimmera Western Grampians Macedon Spa country Central Highlands Upper Yarra Murray East
SA	Murray River, Lakes and Coorong Barossa Riverland Clare Valley Eyre Peninsula Yorke Peninsula Kangaroo Island Adelaide Hills
Tas	West Coast
NT	Barkly MacDonnell

2. REVISIONS TO TIME SERIES

This is the second year that the Regional Tourism Satellite Accounts have been produced on a national basis.

This release contains a new set of accounts providing:

- New data for the 2017-18 financial year.
- Revised data for the 2006-07 to 2016-17 financial year.

Revisions to the time-series have generated estimates which are different to the results produced in previous years and are not comparable to the previous series. The new time-series results in this publication replace the previous estimates. This version take into account a number of revisions in the source data and the underlying methodology reflecting current economic structure of the economy and mix of products produced by tourism industry.

Key revisions in this issue includes the following:

- Changes to ABS National Accounts data. These are typically done every year and directly affect GVA for each region, and through modelling also impact on employment.
- Changes to Regional expenditure data (REX) by TRA, which effect tourism’s economic value and share of regional economies.
- Updates on total employment and population in the regions as new information becomes publicly available. At a minimum this is revised five yearly at every Census.
- Changes to tourism region boundaries.

In 2019, the underlying model parameters were updated to reflect structural changes to the economy as measured by the Australian Bureau of Statistics (ABS) national accounts. This 're-benchmarking' process is conducted every three years, as part of the national, state and regional tourism satellite accounting.

Broadly, the Regional Tourism Satellite Accounts (TSA) model is underpinned by a set of multipliers that describe the relationship between:

- Tourism consumption and output.
- Tourism output and direct gross value added (GVA).
- Tourism output and indirect gross value added.

Under the re-benchmarking process, the key multipliers have been updated from the 2012-13 Australian Bureau of Statistics (ABS) Input-Output (I-O) tables, to the 2016-17 I-O models, consistent with the recent update to the national TSA model.

The key multipliers that drive the relationship between tourism consumption and economic activity are broadly consistent from 2012-13 to 2016-17, and the observed changes reflect fundamental trends in the production structure in the economy, or visitor preferences.

Tourism regions are impacted to differing degrees by these changes, with economically smaller regions more likely to experience greater percentage shifts than larger regions.

Besides these changes, smaller tourism regions are also prone to higher fluctuations due to smaller underlying sample sizes. To address this issue, TRA smooths RTSA outputs for selected regions.

3. GLOSSARY OF TERMS

Gross Value Added (GVA)	The labour income and capital revenue received by the industry from tourism and the net taxes government receives from production.
Gross Regional Product (GRP)	Gross Value Added plus net taxes government receives from goods and services consumed.
Employment	Persons working in tourism-related industries full or part-time
Direct impacts	Those generated by transactions between the visitor and producer for a good or service involving a direct physical or economic relationship. For instance, a visitor staying in a hotel, generates economic activity and employment within the hotel.
Indirect impacts	Flow-on effects generated by the requirement for inputs among industries supplying goods and services to visitors. In the case of the hotel, this might include fresh produce from local farms and electricity used.
Consumption	The total value of tourism goods and services consumed by residents and overseas visitors (including imputation of costs of services consumed by the visitors free of charge)
Basic prices	The amount received by the producer from the purchaser for goods or services. These exclude additional costs such as transport and taxes.
Purchasers' prices	The amount paid by the purchaser (excluding any deductible tax) to take delivery of goods or services. This includes costs such as transport and taxes.