

STATE TOURISM SATELLITE ACCOUNTS – EXPLANATORY NOTES

DATA REVISIONS

The State Tourism Satellite Accounts (STSA) are periodically affected when historical estimates for previous years are revised due to changes in the data on which they were based. In 2017–18, these comprised:

- **changes to regional expenditure:** This has been driven by a downward revision in international visitor consumption numbers in 2016–17, partially offset by an increase in domestic consumption.
- **changes in the National Accounts:** These are revised annually by the Australian Bureau of Statistics (ABS) to ensure their statistics continue to reflect changes in the economy, in line with international best practice. These changes affect the national economy as well as tourism.

Aside from these changes, current results are benchmarked against 2016–17 supply and use tables by the ABS. This can result in revisions in the economic estimates in other years.

IMPACT OF DATA REVISIONS

Under the STSA methodology:

- changes in regional expenditure will affect tourism consumption, which is then used in estimating tourism GVA
- changes in National Accounts will affect GVA at the national and state/territory levels across all industries.

Employment will also be affected, as estimates for tourism employment within each state/territory are largely based on the ratio of tourism GVA to state/territory GVA, and on the structure of their tourism industry.

NOTES ON THE TSA CONCEPTUAL FRAMEWORK

The following organisations jointly developed the framework for the TSA:

- Commission of the European Communities
- Organisation for Economic Co-operation and Development (OECD)
- United Nations World Tourism Organization (UNWTO)
- World Travel and Tourism Council (WTTC).

The framework was approved by the United Nations Statistical Commission (EUROSTAT et al. 2000) and has been revised in UNWTO (2008) and *Tourism Satellite Accounts: Recommended Methodological Framework* (2008). The framework has been widely applied in Australia and internationally, so the recommended methodology for TSAs is not reproduced in this report.

METHODOLOGY AND DATA SOURCES

The 2017–18 State TSA publication builds on the ABS' National TSA to present a comprehensive set of data on the direct and indirect economic contribution of tourism for all states and territories. In doing so, the report highlights changes, in nominal terms, that have occurred in 2017–18 and examines longer-term patterns in tourism's contribution to the national and state and territory economies.

Although the tourism industry is a high value contributor to the Australian economy, the ABS System of National Accounts (SNA) does not capture tourism as a single industry because of the sector's diverse products and services. The National TSA bridge this gap by measuring the economic contribution of tourism and effectively supplementing the SNA. By doing this, comparisons can be made between the tourism industry's economic contribution and that of conventional industries within an economy, or even between tourism sectors across different countries.

DIRECT CONTRIBUTION OF TOURISM

The approach that has been adopted to derive the direct contribution of tourism in the State TSA is similar to that developed by Pham et al. (2009). Essentially, tourism spend data and state/territory industry input-output (I-O) data are combined with the National TSA benchmark. This ensures both the supply of tourism and the demand for tourism at the state/territory level are captured.

The main data sources are:

- unpublished modelled regional expenditure data from Tourism Research Australia's (TRA) International Visitor Survey (IVS) and National Visitor Survey (NVS)
- the I-O database from The Enormous Regional Model (TERM) (Horridge, Madden & Wittwer, 2003)
- the National TSA produced by the Australian Bureau of Statistics (ABS, 2019).

Regional expenditure data are used to derive tourism consumption, or demand, in each state/territory. The regional I-O database provides the cost structure and all required information to derive the supply side of the tourism sector in the State TSA.

The supply and demand elements of the State TSA data are then reconciled with the National TSA benchmark so that the summing conditions between state/territory and national levels are satisfied. Reconciliation is required because the sum of state/territory spend data is not equal to the National TSA produced by the ABS. The main reason for this difference is that the ABS makes an upward adjustment to tourism spend to derive the National TSA data. Unfortunately, the equivalent information necessary to apply an upward adjustment to the state/territory tourism spend is not available. Importantly, the relativity of state/territory differences captured from the regional I-O database and regional spend patterns is maintained when reconciling the State TSA data to the national target.

INDIRECT AND TOTAL CONTRIBUTION OF TOURISM

The indirect effects of tourism demand on businesses that provide goods and services to the tourism industry have also been measured. For example, the indirect tourism demand generated from supplying a meal to a visitor starts with the production of what the restaurant needs to make the meal, such as fresh produce and electricity for cooking.

This approach complements the direct effects presented through the TSA framework and provides a clearer picture of the total contribution of tourism to the economy. However, as the TSA framework is not designed to measure these indirect effects at state and territory level, they have been calculated using I-O analysis methods.

The I-O analysis methods provide a breakdown of the supply and demand of commodities in the Australian economy. As the tourism sector does not have its own multiplier, the multipliers for other industries are used as the basis for calculating tourism's indirect effects. The multipliers measure the individual contribution of the industries associated with supplying goods and services to tourists and thus provide estimates of the flow-on effects for tourism output, tourism GVA, tourism GSP and tourism employment.

The equivalent state and territory output multipliers and state-specific industry level GVA to output and employment to output ratios have been derived from the TERM I-O database. This database is widely used in Australia, and is the only source available for this information at the state and territory level. It is based on 2004–05 data. The same state output multipliers and the associated ratios have been applied to all TSA years presented in this report.

REGIONAL EXPENDITURE

As indicated in the previous section, State TSA data are based on TRA *modelled regional expenditure estimates*, which were derived from IVS and NVS data. The survey data are allocated to tourism regions using an iterative procedure (TRA, 2013). Essentially, the technique takes into account visitors' reported expenditure on their entire trip in Australia, relative to the nights they spend in different tourism regions in Australia.

The estimates derived from the regional expenditure model show there are considerable differences in spend patterns across states and territories. As a key input to the State TSA, they are therefore an important contributor in shaping the patterns evident in the estimates of each state and territory, and the shares attributed to specific tourism-characteristic and tourism-connected industries in each state and territory.

Importantly, it should be recognised that as the modelled regional expenditure figures are derived from survey data, there can be some volatility in these estimates. This is particularly the case for smaller states and territories and spend categories with lower levels of spend.

TOURISM CONSUMPTION AND OUTPUT

The modelled tourism expenditure estimates which are used as an input to the State TSA are measured at purchasers' prices. This includes the following components that are not directly related to industries producing goods and services for tourism purposes:

- imports
- wholesale, retail margins, and transports (margins)
- net commodity taxes.

Consumption represents the demand side of tourism, with visitors paying a final price for goods and services. Thus consumption in this report is generally measured in purchasers' prices to reflect the full price paid by tourists for goods and services. Most consumption data in the National Account and State TSA are presented in the same way.

However, in order to measure flow-on effects correctly, it is necessary to use consumption measured at basic prices. If consumption were measured at purchasers' prices, flow-on effects would be over-estimated by the inclusion of values (such as imports) which are not related directly to domestic production.

Tourism output measures how much demand is satisfied by domestic industries. Often, output is less than total consumption (at purchasers' prices) due to the amount of imports, commodity taxes and any associated margins that are required to facilitate the transfer of goods and services from producers to tourists. Road and rail transport and the wholesale and retail sectors are good examples of this. Only at basic prices is consumption equal to output of the producing industry, as all add-on components paid by the consumers are removed (noting the amounts of margins that are re-allocated to the applicable industries to reflect their contribution to tourism consumption explicitly).

It is also important to note that within the basic prices category, not all goods and services are now defined as direct output in the new TSA framework. As indicated previously, the output of an industry is defined as direct tourism output only when the industry has physical contact with tourists (for example, cafés, restaurants and accommodation). Items like fuel are not direct tourism outputs. For example, if a tourist spends \$98 to fill up their petrol tank, and \$80 is the cost of fuel and \$18 is the cost to run the petrol station, then only \$18 is recorded as direct tourism output associated with the retail industry. The remaining \$80 is considered to be the cost to the retailer of the domestic good sold to tourists and would be captured in the flow-on effects to account for the value-adding that tourism has generated in the domestic economy.

GLOSSARY

Basic price: The amount receivable by the producer from the purchaser for a unit of a good or service prior to any additional costs such as net commodity taxes or any margins required to facilitate transfer of the goods and services from the producer to the tourists. These additional costs are paid by consumers but received by other industries (transport) and government (tax revenue).

Direct contribution of tourism: The contribution generated by transactions between the visitor and producer for a good or service that involves a direct physical or economic relationship. For example, the direct effects of an increase in the number of visitors staying in hotel accommodation are the sales and any associated changes in payments for wages and salaries, taxes and supplies and services. These direct economic impacts are measured according to the TSA framework throughout this report.

Employed person: A person aged 15 years or over who, during the reference week, worked for one hour or more for pay, profit, commission or payment in kind in a job or business or on a farm, or worked for one hour or more without pay in a family business or on a farm. Direct and indirect tourism employment are measured separately using the TSA framework and I-O modelling techniques respectively. Combined they provide an estimate of total tourism employment.

Indirect contribution of tourism: The subsequent or flow-on effects created by the requirement for inputs from those industries supplying goods and services to tourists. For example, in the case of the hotel industry this might include the fresh produce supplied to a hotel and the electricity used. These indirect economic impacts are measured using I-O modelling techniques in this report as the TSA framework is not designed to produce such estimates at the state and territory level.

International tourism: Overseas visitors to Australia who stay for a period of less than 12 months.

Interstate travel: Domestic overnight travel where a visitor travels to a state or territory other than that in which they reside.

Intrastate travel: Domestic overnight travel where a visitor travels to a location in the state or territory in which they reside.

Net taxes on products: The combined taxes or subsidies on a product, payable per unit of a good or service. These usually become payable when the product is sold or imported but these may also become payable in other circumstances such as when a good is exported.

Purchasers' prices: The amount payable by the purchaser (excluding any deductible tax) to take delivery of a unit of a good or service at the time and place they require it. This includes any transport charges paid separately to take delivery of the good or service.

Same-day travel: Domestic travel involving a round trip distance of at least 50 kilometres and at least four hours, and no nights spent away from home. Same-day travel as part of overnight travel is excluded, as is routine travel such as commuting between work or school and home.

Total contribution of tourism: The total contribution of tourism taking into account direct and indirect effects (see direct contribution of tourism and indirect contribution of tourism).

Tourism-characteristic industries: Industries that would either cease to exist in their present form or be significantly affected if tourism were to cease. Under the international TSA standards, core lists of tourism characteristic industries, based on the significance of their link to tourism in the worldwide context, are recommended to facilitate international comparison. The core list of tourism characteristic industries is consistent with the newly revised international classification of industries, namely the International Standard Industrial Classification, Revision 4 (ISIC Rev. 4), which aligns closely with ANZSIC 2006. In the Australian TSA, for an industry to be a country-specific tourism characteristic industry, at least 25% of its output must be consumed by visitors.

Tourism-characteristic products: Products that would either cease to exist in their present form or be significantly affected if tourism were to cease, or for which sales would be significantly reduced in the absence of tourism. Under the international TSA standards, core lists of tourism characteristic products, based on the significance of their link to tourism in the worldwide context, are recommended to facilitate international comparison. In the Australian TSA, for a product to be a country-specific tourism characteristic, at least 25% of the output of the product must be consumed by visitors.

Tourism-connected industries: Industries, other than tourism characteristic industries, for which a tourism-related product is directly identifiable (primary) and where the products are consumed by visitors in volumes that are significant for the visitor and/or the producer. All other industries are classified as 'all other industries', though some of their products may be consumed by visitors and are included in the calculation of direct tourism GVA and direct tourism GDP.

Tourism-connected products: Products that are consumed by visitors but are not considered as tourism characteristic products.

Tourism consumption: The total value of tourism goods and services consumed by residents and visitors from overseas in Australia. It includes household, business and government tourism consumption. It represents the price paid by the visitor (which therefore includes taxes and subsidies) and is measured in purchasers' prices.

Tourism gross state product: Tourism GVA plus net taxes on products that are attributable to the tourism industry. As such, it generally has a higher value than tourism GVA. Direct and indirect flow-on GSP are measured separately using the TSA framework and I-O modelling techniques, respectively. Combined, they provide an estimate of total tourism GSP.

Tourism gross value added: Considered the most accurate measure of the contribution of the industry to the economy. It includes the total labour income and capital revenue received by the industry and the net taxes that government receives from the production, and is measured in basic prices. Direct and indirect flow-on GVA are measured separately using the TSA framework and I-O modelling techniques, respectively. Combined, they provide an estimate of total tourism GVA.

Tourism output: The total value of goods and services produced in Australia to satisfy visitor consumption. It is measured in basic prices, so it excludes net taxes on tourism products. Direct and indirect flow-on outputs are measured separately using the TSA framework and I-O modelling techniques, respectively. Combined, they provide an estimate of total tourism output.