

# **Information Paper Series**

Singapore Tourism Satelite Account 2015



information paper

on

economic statistics

#### SINGAPORE TOURISM SATELLITE ACCOUNT 2015

Singapore Department of Statistics

October 2023

Papers in this Information Paper Series are intended to inform and clarify conceptual and methodological changes and improvements in official statistics. The views expressed are based on the latest methodological developments in the international statistical community. Statistical estimates presented in the papers are based on new or revised official statistics compiled from the best available data. Comments and suggestions are welcome.

© Singapore Department of Statistics. All rights reserved.

Please direct enquiries on this information paper to:

Input Output Tables Division Singapore Department of Statistics Tel: 6332 7496 Email: singstat-iotd-request@singstat.gov.sg

Application for the copyright owner's written permission to

reproduce any part of this publication should be addressed to

the Chief Statistician and emailed to the above address.

## **Our Vision**

National Statistical Service of Quality, Integrity and Expertise

### **Our Mission**

We deliver Insightful Statistics and Trusted Statistical Services that

**Empower Decision Making** 

## **Our Guiding Principles**

Professionalism & Expertise	We adhere to professional ethics and develop statistical competency to produce quality statistics that comply with international concepts and best practices.
Relevance & Reliability	We produce statistics that users need and trust.
Accessibility	We facilitate ease of access to our statistics through user-friendly platforms.
Confidentiality	We protect the confidentiality of individual information collected by us.
Timeliness	We disseminate statistics at the earliest possible date while maintaining data quality.
Innovation	We constantly seek ways to improve our processes, leveraging on new technology, to deliver better products and services to users.
Collaboration	We engage users on data needs, data providers and respondents on supply of data, and undertake the role of national statistical coordination.
Effectiveness	We optimise resource utilisation, leveraging on administrative and alternative data sources to ease respondent burden.

### Table of Contents

Exe	cutive Summary1
1.	Introduction2
2.	Background of the Singapore TSA2
3.	TSA 2015 Findings: Tourism Contributions to the Singapore Economy3
	Tourism Products and Industries 3
	Inbound Tourism Expenditure 4
	Tourism Output 6
	Tourism Value Added 6
	Tourism Direct Gross Value Added6
	Tourism Indirect Gross Value Added6
	Tourism Total Gross Value Added6
	Gross value added of tourism industries7
	Tourism Value Added Estimates 2015 7
	Tourism Value Added by Industries10
	Tourism Employment11
4.	Multiplier Analysis13
	Tourism Multipliers13
5.	Conclusion14
ANI	NEXES15
	Annex 1: Classification of Tourism Products and Industries15
	<b>Annex 2: Tourism Key Aggregates, 2015</b> 16

#### TSA Tables

	TABLE 1: Inbound Tourism Expenditure by Products at Purchasers' Prices, 2015	4
	TABLE 2: Production Accounts of Tourism Industries and Other Industries at Basic Prices, 2015	55
	TABLE 3: Total Supply and Inbound Tourism Expenditure at	
	Purchasers' Prices, 2015	9
	TABLE 4: Employment in the Tourism Industries, 2015	.11
E:	khibits	
	Exhibit 1: Tourism Satellite Account Value Added Estimates, 2015	8
	Exhibit 2: Tourism Total Gross Value Added by Industry, 2015	. 10
	Exhibit 3: Tourism Employment Estimates, 2015	. 12
	Exhibit 4: Simple Multipliers by Industry Per Million Dollar Change in Final	
	Demand, 2015	.14

#### **Executive Summary**

Tourism is a composite industry that spans across many different industries. Tourism Satellite Account (TSA) is used to measure tourism's contribution to output, value-added and employment in an economy. It provides useful information on the tourism industries and products as well as the framework for economic modelling and impact studies to facilitate analysis and policy making.

The Supply and Use Tables (SUTs) are used to inter-relate visitor demand with the supply of tourism and non-tourism industries. The compilation of Singapore's TSA for reference year 2015 is based on the latest benchmark SUT 2015, with key data sources from Singapore Tourism Board (STB)'s Overseas Visitor Survey and Singapore Department of Statistics (DOS)'s Balance of Payments estimates.

In 2015, tourism expenditure amounted to \$21.8 billion and generated tourism direct output (visitors' purchases less imports and goods and services taxes) of \$17.9 billion. The Arts, entertainment and recreation services industry generated the highest tourism direct output of \$4.2 billion.

Tourism direct gross value added (TDGVA) in the Singapore economy was \$9.5 billion in 2015 which accounted for 2.4 per cent of Gross Value Added (GVA). Tourism also indirectly contributed another \$3.7 billion or 0.9 per cent of GVA via the impact on other industries. Collectively, tourism's total contribution to gross value added as measured by tourism total gross value added (TTGVA) was \$13.2 billion in 2015, or 3.3 per cent of GVA. The Arts, entertainment and recreation services industry topped all the industries, generating \$3.5 billion (26.4 per cent) of TTGVA or 0.9 per cent of GVA.

Tourism direct and indirect employment were estimated to be 121.3 thousand and 38.8 thousand in 2015, contributing 3.3 per cent and 1.1 per cent of total employment respectively. Together, total tourism employment of 160.1 thousand accounted for 4.4 per cent of total employment in Singapore.

The tourism industry value added multiplier in 2015 was 0.74, the fourth highest out of 12 broad industries. This means an increase in visitors' consumption would stimulate a relatively higher level of value added in the whole economy compared to other industries. The employment multiplier of the tourism industry was 8.93, i.e. about 9 jobs were created per one million dollars of visitor spending in 2015.

#### SINGAPORE TOURISM SATELLITE ACCOUNT 2015: MEASURING TOURISM'S IMPACT ON THE SINGAPORE ECONOMY

#### 1. Introduction

Tourism plays a significant role in the Singapore economy. This paper aims to provide a better understanding on the economic contribution of tourism for policy analysis and development of the industry.

Tourism is not a typical industry as it is a composite industry that exists implicitly as part of many different industries with expenditure by visitors. The Supply and Use Tables (SUT) of the System of National Accounts 2008 provide the framework for inter-relating visitor demand with the supply of tourism and non-tourism industries. This enables the size of tourism industry and its contribution to be estimated.

The Tourism Satellite Account (TSA) is an extension of the SUT and it is a standard statistical framework for the economic measurement of tourism. The UN Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA: RMF 2008) provides the common conceptual framework for constructing a TSA<sup>1</sup>.

Besides providing key aggregates (output, value-added and employment) of the tourism industry, the objective of the TSA is also to provide detailed and analytical information on different aspects of tourism, such as the product composition of tourism consumption, the industries most impacted by tourism consumption, and their relationships with other industries.

Further, the TSA provides an integrated and comprehensive framework for economic modelling which enables tourism's indirect and total contribution to the economy to be derived. These estimates complement the Singapore Tourism Board (STB)'s tourism indicators on the Singapore economy.

#### 2. Background of the Singapore TSA

The compilation of Singapore's TSA for reference year 2015 is based on the latest benchmark SUT 2015. Additional key data sources include STB's Overseas Visitor Survey and Singapore Department of Statistics (DOS)'s Balance of Payments estimates.

<sup>&</sup>lt;sup>1</sup> The TSA: RMF 2008 was developed by the World Tourism Organization (UNWTO), the United Nations Statistics Division (UNSD), Statistical Office of the European Communities (Eurostat) and the Organization for Economic Cooperation and Development (OECD). It presents a summary of the main issues of specific relevance for the Tourism Satellite Account conceptual framework.

According to the TSA: RMF 2008, the full TSA comprises a set of 10 interrelated tables. The focus of Singapore's TSA is on inbound tourism expenditure (consumption of a non-resident visitor within Singapore). Domestic tourism (tourism consumption of a resident visitor within Singapore) and outbound tourism (tourism consumption of a resident visitor outside Singapore) are not compiled due to data limitations. Singapore's TSA comprises the following tables:

- (i) Table 1: Inbound tourism expenditure by products;
- (ii) Table 5: Production accounts of tourism industries and other industries (at basic prices);
- (iii) Table 6: Total domestic supply and internal tourism consumption (at purchasers' prices); and
- (iv) Table 7: Employment in the tourism industries.

This paper summarises the main findings from the Singapore TSA 2015, providing information on the following:

- (1) key aggregates of the Singapore tourism sector;
- (2) key tourism industries through their value-added contribution; and
- (3) direct and indirect impact of tourism on the Singapore economy.

#### 3. TSA 2015 Findings: Tourism Contributions to the Singapore Economy

#### Tourism Products and Industries

Based on the International Recommendations of Tourism Statistics 2008 (IRTS 2008<sup>2</sup>, para 5.10), a tourism-characteristic product is one that would cease to exist in meaningful quantity, or for which the level of consumption would be significantly reduced, in the absence of visitors. Tourism characteristic industries are industries that typically produce tourism characteristic products.

A standard list of tourism products and industries which are internationally comparable as well as a list of country-specific tourism products and industries (determined by each country) can be found in <u>Annex 1</u>: Tourism product and industry classification. The Singapore TSA adopts the list of classification as closely as possible, subject to the data available. For example, land and water passenger transport services are compiled at an aggregated level instead of being broken down into railway, road and water passenger transport services due to data limitations. Shopping is not in the standard list of internationally comparable tourism

<sup>&</sup>lt;sup>2</sup> The IRTS 2008 was drafted by the UNWTO in close cooperation with the UNSD, the International Labour Organization and other members of the Inter-Agency Coordination Group on Tourism Statistics. It provides a comprehensive methodological framework for collection and compilation of tourism statistics.

products but is added as a country-specific tourism product as it has a significant impact on the Singapore tourism landscape.

The IRTS 2008 identifies tourism characteristic products and industries using the UN Central Product Classification (CPC, Ver. 2) and the UN International Standard Industrial Classification of All Economic Activities (ISIC, Rev. 4) respectively. To derive the tourism products and industries for compilation, the Singapore TSA follows as closely as possible to the recommended list of CPC and ISIC.

A non-tourism product is a product that is not consumed by visitors. A non-tourism industry refers to all establishments whose principal activity is not a tourism characteristic activity. However, it may still serve visitors. For example, the telecommunications services industry is a non-tourism industry but visitors may still consume telecommunications services produced by the industry.

#### Inbound Tourism Expenditure

Inbound tourism refers to tourism of non-resident visitors (foreign visitors and nationals permanently residing abroad) within Singapore. The total inbound tourism expenditure in 2015 amounted to \$21.8 billion (see <u>TSA Table 1</u>)<sup>3</sup>. Arts, entertainment and recreation services made up the largest share of inbound tourism expenditure at \$5.1 billion or 23.5 per cent, followed by Passenger transport services at \$4.2 billion or 19.3 per cent and Shopping at \$4.1 billion or 18.8 per cent.

## TSA TABLE 1: Inbound Tourism Expenditure by Products at Purchasers' Prices, 2015 (\$ million)

Tourism Products	Inbound Tourism Expenditure (All Visitors)
Accommodation	3,648
Food and beverage services	2,797
Passenger transport services	4,196
Arts, entertainment and recreation services	5,117
Business and other services	1,936
Shopping	4,083
TOTAL	21,777

Notes: Passenger transport services include Land, water and air passenger transport services. Business and other services include Education, Health services, Exhibitions and conventions, Travel agency and reservation services, Other personal services etc

<sup>&</sup>lt;sup>3</sup> Although total inbound tourism expenditure was aligned to STB's tourism receipts (TR) in 2015, the TSA breakdown by products differed from STB's TR components due to more TSA codes and differences in methodology.

# TSA TABLE 2: Production Accounts of Tourism Industries and Other Industries at Basic Prices, 2015 (\$ million)

			Total output of						
Products	Accommodation	Food and beverage services	Passenger transport services	Arts, entertainment and recreation services	Business and other services	Retail Trade	Tourism Industries TOTAL	Other non- tourism industries <sup>##</sup>	domestic producers (at basic prices)
Accommodation	3,479	-	4	10	5	-	3,499	106	3,605
Food and beverage services	301	2,340	1	26	1	2	2,671	29	2,700
Passenger transport services	0	0	3,495	0	0	0	3,496	151	3,647
Arts, entertainment and recreation services	24	-	-	4,123	2	-	4,149	133	4,282
Business and other services	4	6	38	3	1,058	4	1,114	754	1,867
Shopping	1	0	1	1	5	1,371	1,379	444	1,823
Other non-tourism products <sup>#</sup>	2,654	7,267	23,422	2,944	18,878	9,302	64,467	996,581	1,061,048
Total Output	6,463	9,613	26,961	7,108	19,950	10,679	80,774	998,198	1,078,972
Total intermediate consumption (at purchasers' prices)	2,859	5,649	13,856	2,419	9,676	5,761	40,220	639,565	679,785
Total gross value added (at basic prices)	3,604	3,964	13,105	4,689	10,274	4,919	40,554	358,633	399,187
Of which: Compensation of employees	1,629	2,597	3,660	1,934	8,225	3,067	21,112	156,575	177,687
Other taxes less subsidies on production	138	65	280	76	5	11	576	6,456	7,032
Gross operating surplus	1,838	1,301	9,165	2,679	2,044	1,841	18,867	195,602	214,469
Key aggregates derived from Table 2:									
Tourism Output	3,809	2,347	3,539	4,164	1,071	1,377	16,308	1,617	17,924
Tourism Industry Ratio	0.589	0.244	0.131	0.586	0.054	0.129		0.002	
Gross Value-added of Tourism Industries (GVATI)	3,604	3,964	13,105	4,689	10,274	4,919	40,554		

Notes: Figures may not add up to totals due to rounding.

\* Non-tourism products refer to the rest of the products in the economy not consumed by visitors. These products can be produced by tourism industries.

<sup>##</sup> Visitors also consume products produced by non-tourism industries

#### Tourism Output

Tourism direct output (at basic prices) is the value of domestically produced goods and services purchased by visitors, excluding goods and services tax. In 2015, inbound tourism expenditure of \$21.8 billion generated domestic output of \$17.9 billion (see <u>TSA Table 2</u>). Tourism demand in the Arts, entertainment and recreation services industry, and the Accommodation industry generated the highest domestic output of \$4.2 billion and \$3.8 billion respectively. For example, the Accommodation industry produced \$6,463 million of output, comprising \$3,809 million of tourism output (viz. \$3,479 million of accommodation, \$301 million of food & beverage services, \$24 million of arts, entertainment, recreation services, \$4 million of business and other services and \$1 million of shopping) and \$2,654 million of other non-tourism products. The Accommodation tourism industry ratio was 0.589 (based on \$3,809 million of tourism output out of total output of \$6,463 million), the highest among all the tourism industries. Using input-output modelling, tourism total output was estimated to be \$26.4b after including the indirect effects of output produced by upstream industries used as intermediate inputs in the production of products sold to visitors (see <u>Annex 2</u>).

#### Tourism Value Added

#### Tourism Direct Gross Value Added

The RMF 2008 recommends tourism direct gross value added (TDGVA) as the internationally comparable measure of the economic importance of tourism. TDGVA refers to the value added generated from both tourism and non-tourism industries that supply tourism products directly to visitors.

#### Tourism Indirect Gross Value Added

TDGVA does not measure the full impact of tourism on the Singapore economy because it is only limited to those industries that have a direct relationship with visitors. Additional value added is also generated through the production of the intermediate inputs used in the production of products sold to visitors. For example, the Accommodation industry, which is a tourism industry, purchases inputs such as electricity and laundry services. In turn, the industries that supply electricity and laundry services will purchase inputs from other industries. The cumulative effect is tourism's indirect contribution to the economy and the value added generated from these other industries is known as the tourism indirect gross value added (TIGVA).

#### Tourism Total Gross Value Added

Tourism total gross value added (TTGVA) is the sum of TDGVA and TIGVA. It is the value added generated directly and indirectly through the provision of tourism products to visitors.

On its own, the TSA is unable to estimate TIGVA and TTGVA. By transforming the TSA into an input-output model, users can get a more complete picture of tourism value added and perform various analytical studies.

#### Gross value added of tourism industries

The TSA: RMF 2008 also uses the gross value added of tourism industries (GVATI) as a measure of tourism's direct contribution. It refers to the gross value added of all establishments that are classified as tourism industries regardless of whether their output is provided to visitors.

GVATI is recorded in TSA Table 2, which amounted to \$40.6 billion in 2015. The Passenger transport services industry accounted for the largest share of GVATI at \$13.1 billion or 32.3 per cent.

As GVATI includes the consumption of non-visitors and excludes consumption of visitors in non-tourism industries, it is a less precise measure compared to TDGVA (TSA: RMF 2008 para. 4.87). Hence TDGVA instead of GVATI is used to measure tourism's direct contribution to GDP in this paper.

#### Tourism Value Added Estimates 2015

TSA Table 3: Total Supply and Inbound Tourism Expenditure at Purchasers' Prices is regarded as the core of the TSA system where the reconciliation between domestic supply and inbound tourism expenditure takes place and is derived from the Supply and Use Tables. For example, Accommodation total supply was \$4,598 million in 2015, of which \$3,648 million came from tourism supply, comprising \$3,499 million from tourism industries, \$106 million from nontourism industries, and \$43 million from imports and taxes less subsidies. The Accommodation tourism product ratio was hence 0.793 (based on \$3,648 million of Accommodation tourism supply out of total supply of \$4,598 million).

The tourism supply of tourism and non-tourism industries in TSA Table 3 and the production accounts in TSA Table 2 are used to derive TDGVA<sup>4</sup>. The TDGVA in the Singapore economy was \$9.5 billion in 2015 which accounted for 2.4 per cent of Gross Value Added (GVA) at basic

<sup>&</sup>lt;sup>4</sup> TSA Table 3 matches tourism expenditure by type of product with the total supply of products in the Supply and Use Tables. The tourism product ratio for each product is derived by dividing the value of tourism expenditure by total supply of the product. Each industry's output by product is multiplied by the tourism product ratio to obtain the tourism supply by industry. This is linked to TSA Table 2, where each tourism industry supply is divided by total output, to obtain the tourism industry ratio – the proportion of each industry's total output that is purchased by visitors. Each tourism industry ratio is multiplied by the industry's total gross value added and then summed across all industries to derive TDGVA.

prices (see <u>Exhibit 1</u>). Using input-output modelling<sup>5</sup>, it was estimated that tourism indirectly<sup>6</sup> contributed another \$3.7 billion or 0.9 per cent of GVA. Collectively, tourism's total contribution to gross value added (TTGVA) in the Singapore economy was \$13.2 billion in 2015, or 3.3 per cent of GVA.

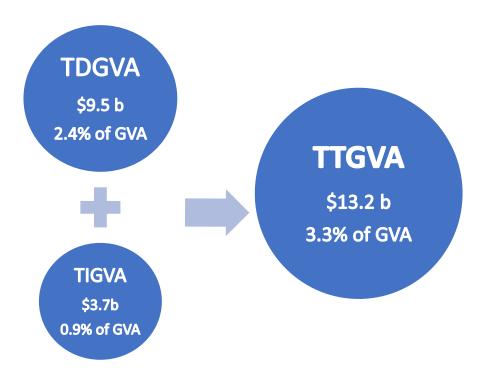


Exhibit 1: Tourism Satellite Account Value Added Estimates, 2015

<sup>&</sup>lt;sup>5</sup> There are a few underlying assumptions for IO modelling: a) Homogeneity (all establishments classified in the same industry have the same production process and inputs requirements, b) Fixed proportion (industries have fixed input requirements proportion relative to output) and c) No supply constraint (the required amount of intermediate inputs and labour can be provided to meet the increase in demand at the same fixed price).

<sup>&</sup>lt;sup>6</sup> Total value added multipliers by industries are derived using IO modelling. For each industry, the value added multiplier is weighted by its tourism industry ratio to take into account the consumption of visitors. Each weighted industry value added multiplier is then multiplied by total tourism output and summed across all industries to derive the tourism total gross value added (TTGVA). Tourism indirect gross value added (TIGVA) is derived from TTGVA less TDGVA.

# TABLE 3: Total Supply and Inbound Tourism Expenditure at Purchasers' Prices, 2015(\$ million)

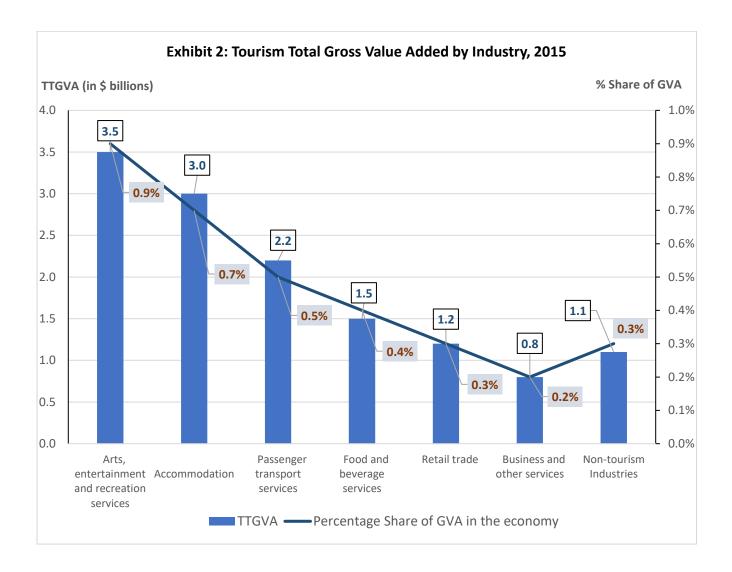
		Tourism	Supply			Total Supply					
Products	Tourism Industries	Non-tourism Industries	Imports and Taxes less Subsidies on Products	Inbound Tourism Expenditure (at purchasers' prices)	Tourism Product Ratio	Tourism Industries	Non-tourism Industries	Imports and Taxes less Subsidies on Products	Total (at purchasers' price)		
Accommodation 3,499 106 43		3,648	0.793	4,410	134	54	4,598				
Food and beverage services	2,671	29	98	2,797	0.168	11,152	4,619	878	16,649		
Passenger transport services	3,496	151	549	4,196	0.043	24,507	71,329	1,196	97,032		
Arts, entertainment and recreation services	4,149	133	835	5,117	0.545	6,623	1,597	1,175	9,395		
Business and other services	1,114	754	68	1,936	0.016	22,856	91,832	5,721	120,410		
Shopping	1,379	444	2,260	4,083	0.022	10,018	84,275	93,694	187,986		
Other non-tourism products						1,208	744,412	561,754	1,307,374		
Tourism supply of products	16,308	1,617	3,853	21,777							
Total supply of products						80,774	998,198	664,472	1,743,444		

Note: Figures may not add up to totals due to rounding.

#### Tourism Value Added by Industries

Tourism comprises many supplying industries, including non-tourism industries. Each industry's contribution to tourism varies depending on how closely it is related to tourism.

The Arts, entertainment and recreation services industry topped all the industries, generating \$3.5 billion (26.4 per cent) of TTGVA, which accounted for 0.9 per cent of GVA in 2015 (see <u>Exhibit 2</u>). The Accommodation industry was the next largest with a TTGVA of \$3.0 billion (22.5 per cent), accounting for 0.7 per cent of GVA.



#### Tourism Employment

Employees in industries serving visitors generally provide services to both visitors and nonvisitors. Hence, to estimate tourism's impact on employment, the TSA assumed that direct employment generated by tourism is proportional to the output generated by tourism (RMF 2008 para 4.64). Tourism direct employment was estimated to be 121.3 thousand in 2015 (see <u>TSA Table 4</u>).

Industries	Total Employment in the Economy (Thousands)	Tourism Industry Ratios	Tourism Direct Employment (Thousands)	
Tourism Industries				
Accommodation	35.8	0.589	21.1	
Food and beverage services	148.5	0.244	36.2	
Passenger transport services	104.4	0.131	12.4	
Arts, entertainment and recreation services	44.5	0.586	22.8	
Business and other services	174.0	0.054	9.7	
Retail trade	110.7	0.129	14.3	
Other non-tourism industries	3,038.1	0.002	4.8	
TOTAL	3,656.2		121.3	

TSA TABLE 4: Em	plovment ir	n the Tourism	Industries. 2015
	pioyment	i the rounsin	maastrics, 2013

Notes: Total Employment data are primarily from administrative records, with the self-employed component estimated from the Labour Force Survey from Manpower Research & Statistics Department, MOM. Figures do not add up to the total due to rounding.

Tourism direct employment figures are DOS's estimates based on TSA methodology and total employment data from Manpower Research & Statistics Department, MOM.

Tourism total employment is derived by transforming the TSA into an input-output model<sup>7</sup>. Tourism indirect employment refers to employment generated from the production of intermediate inputs used for producing the products sold to visitors and it is derived from tourism total employment less tourism direct employment<sup>8</sup>. Tourism total employment was estimated to be 160.1 thousand in 2015, accounting for 4.4 per cent of total employment in the Singapore economy (see Exhibit 3). This comprises tourism direct employment of 121.3 thousand and tourism indirect employment of 38.8 thousand, accounting for 3.3 per cent and 1.1 per cent of total employment respectively.

<sup>&</sup>lt;sup>7</sup> Total employment multipliers by industries are derived using IO modelling. For each industry, the employment multiplier is weighted by its tourism industry ratio to take into account the consumption of visitors. Each weighted industry employment multiplier is then multiplied by total tourism output and summed across all industries to derive the tourism total employment.

<sup>&</sup>lt;sup>8</sup> Refer to Annex 2 on Tourism Key Aggregates 2015, which shows the direct as well as total tourism output, value-added and employment estimates.

**Tourism Direct Employment** 121.3 thousand 3.3% of total employment

**Tourism Indirect Employment** 38.8 thousand 1.1% of total employment Tourism Total Employment 160.1 thousand 4.4% of total employment

#### 4. Multiplier Analysis

A multiplier is a ratio that measures the impact on the total economy as a result of an initial exogenous change in final demand, for example, increased spending by visitors. Different multipliers are generated for different analyses. The most commonly used multipliers are output, value added and employment multipliers.

#### Tourism Multipliers

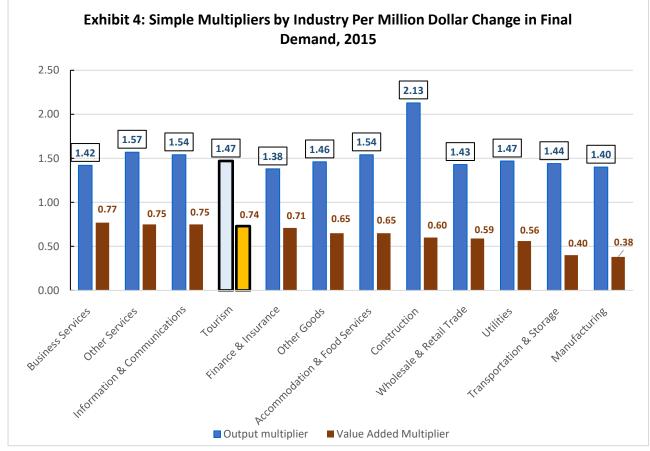
The tourism multipliers are derived by applying industry multipliers from the TSA and weighted by tourism product ratios<sup>9</sup> to each category of visitor spending. These weighted multipliers include the consumption effects of tourism across all industries serving visitors.

Exhibit 4 shows compares the output and value added multipliers<sup>10</sup> of the tourism industry derived from the TSA 2015 with those of the other industries in the economy. The tourism industry output multiplier was 1.47 while the tourism value added multiplier was 0.74 in 2015. The value added multiplier was the fourth highest among all the industries, which means an increase in visitors' consumption would stimulate a relatively higher level of value added in the whole economy compared to other industries.

The employment multiplier of the tourism industry was 8.93 in 2015. This means the tourism industry generated an additional 9 jobs per one million dollars in final demand spending in 2015.

<sup>&</sup>lt;sup>9</sup> The tourism product ratio is the proportion of total product output consumed by visitors for each industry serving visitors. The tourism multiplier is the sum of all industry multipliers weighted by their respective tourism product ratio. This method to derive the tourism output, value added and employment multipliers is referenced from Tourism Research Australia's *"Tourism's Contribution to the Australian Economy 1997-98 to 2011-12"*.

<sup>&</sup>lt;sup>10</sup> The simple multiplier here comprises both direct and indirect effects.



Note: The multipliers of the non-tourism industries are from the Singapore Supply, Use and Input-Output Tables 2015

#### 5. Conclusion

The TSA provides internationally recognised measures of tourism's economic impact which enables tourism to be readily comparable with the contributions of other industries. It also provides a framework for economic modelling and impact studies to facilitate analysis and policy making.

#### Annex 1: Classification of Tourism Products and Industries

This list shows the categories of tourism characteristic products and industries recommended in the IRTS 2008 and the list of tourism industries and products used in Singapore's TSA.

NIa	IRTS 2	2008	Singapore TSA 2015				
No	Tourism Products	Tourism Industries	Tourism Products	Tourism Industries			
1	Accommodation services Accommodation for for visitors visitors		Accommodation	Accommodation			
2	Food- and beverage- serving services	Food- and beverage- serving activities	Food and beverage services	Food and beverage services			
3	Railway passenger transport services	Railway passenger transport					
<ul> <li>4 Road passenger transport services</li> <li>5 Water passenger transport services</li> </ul>		Road passenger transport	Passenger transport	Passenger transport			
		Water passenger transport	services	services			
6	Air passenger transport services	Air passenger transport					
7	Cultural services	Cultural activities	Arts, entertainment and recreation services	Arts, entertainment and recreation services			
8	Sports and recreational services	Sports and recreational activities					
9	Transport equipment rental services	Transport equipment rental					
Travel agencies and 10 other reservation services		Travel agencies and other reservation services activities	Business and other services	Business and other services			
11	Country-specific tourismOther country-specificcharacteristictourism characteristicservicesactivities						
12	Country-specific tourism characteristic goods	Retail trade of country- specific tourism characteristic goods	Shopping	Retail trade <sup>11</sup>			

<sup>&</sup>lt;sup>11</sup> Retail trade refers to the margins associated with shopping goods purchased by visitors. From TSA: RMF 2008 Annex 4, only retail trade is considered a tourism productive activity (industry) and not the goods as retail trade activity has a direct relationship with the visitor. Producers of goods from the manufacturing industries that are not in direct contact with visitors will not be included as tourism industries.

#### Annex 2: Tourism Key Aggregates, 2015

#### (\$ million except for employment)

Key Aggregates from the TSA								Total Aggregates (Direct + Indirect effects) derived from Input-Output Modelling				
Industries	Tourism Direct Output	Share of Domestic Output in the Economy	Tourism Direct Gross Value Added (TDGVA)	Share of Total GVA in the Economy	Tourism Direct Employment (Thousands)	Share of Total Employment in the Economy	Tourism Total Output	Share of Domestic Output in the Economy	Tourism Total Gross Value Added (TTGVA)	Share of Total GVA in the Economy	Tourism Total Employment (Thousands)	Share of Total Employment in the Economy
Tourism Industries												
Accommodation	3,809	0.4%	2,124	0.5%	21.1	0.6%	5,701	0.5%	2,966	0.7%	29.7	0.8%
Food and beverage services	2,347	0.2%	968	0.2%	36.2	1.0%	3,624	0.3%	1,524	0.4%	41.3	1.1%
Passenger transport services	3,539	0.3%	1,653	0.4%	12.4	0.3%	4,888	0.5%	2,152	0.5%	17.5	0.5%
Arts, entertainment and recreation services	4,164	0.4%	2,823	0.7%	22.8	0.6%	5,657	0.5%	3,488	0.9%	31.8	0.9%
Business and other services	1,071	0.1%	555	0.1%	9.7	0.3%	1,637	0.2%	819	0.2%	12.5	0.3%
Retail trade	1,377	0.1%	634	0.2%	14.3	0.4%	2,483	0.2%	1,171	0.3%	18.7	0.5%
Other non-tourism industries	1,616	0.1%	710	0.2%	4.8	0.1%	2,437	0.2%	1,076	0.3%	8.6	0.2%
TOTAL	17,924	1.7%	9,468	2.4%	121.3	3.3%	26,426	2.4%	13,196	3.3%	160.1	4.4%

Note: Figures may not add up to totals due to rounding.

### SINGAPORE DEPARTMENT OF STATISTICS COMMUNICATIONS & INFORMATION SERVICES

Singapore Department of Statistics (DOS) offers official statistics, data insights, visualisations and statistical resources through user-friendly platforms.



#### SingStat Website

Visit this convenient gateway to access latest data and statistical information.

Data across the six major themes of Economy & Prices, Industry, Trade & Investment, Population, Households and Society, covering some 200 topics such as Gross Domestic Product, Consumer Price Index, Retail Sales and Food & Beverage Services Indices, Producer Price Indices, Business Expectations, Business Receipts Index, Trade in Services, Direct Investment, Population Indicators, Household Income, Household Expenditure, Deaths and Life Expectancy, Births and Fertility, Marriages and Divorces, and more.

#### **Publications**

- Information Papers which highlight conceptual and methodological changes and improvements in official statistics.
- Occasional Papers which present statistical trends and observations on important social and economic issues to stimulate discussion and research.
- eBook of Statistics which consolidates latest information and resources on key economic and socio-demographic domains.
- Singapore in Figures which allows exploration of key economic and socio-demographic statistics through interactive dashboards.
- Statistics Singapore Newsletter which features articles on latest key statistical activities, recent survey findings and methodological improvements.

Visualisations such as infographics and interactive dashboards with latest data, and videos to explain data and statistical concepts.

Data for Businesses with data tools to empower data-driven business decisions, giving firms insights on their customers, industries and business performance.

Advance Release Calendar providing dates of upcoming data releases in the next six months.



#### SingStat Table Builder

Access for free over 2,200 data tables across various economic and socio-demographic domains from 70 public sector agencies. Watch the video to find out how you can easily access and customise data tables.



#### SingStat Mobile App

Download the app for fast and convenient access to commonly referenced statistics via your mobile devices. Over 260 charts are available across 38 data categories for easy visualisation of data trends.



#### SingStat Express

Subscribe to receive alerts on the latest press releases, occasional/information papers and newsletters.



For statistical enquiries, you may reach us at:

- email: info@singstat.gov.sg or submit the Data Request Form
- C phone: 1800-323 8118\* (Local users) or (65) 6332 7738 (Overseas users)

\* Calls from mobile telephone lines to 1800 local toll-free number may be subject to mobile airtime charges as imposed by the relevant mobile service provider. Find us on social media!



