



**Economic contribution of the  
Qantas Group's regional  
operations**

Qantas Group

April 2018

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# Executive summary

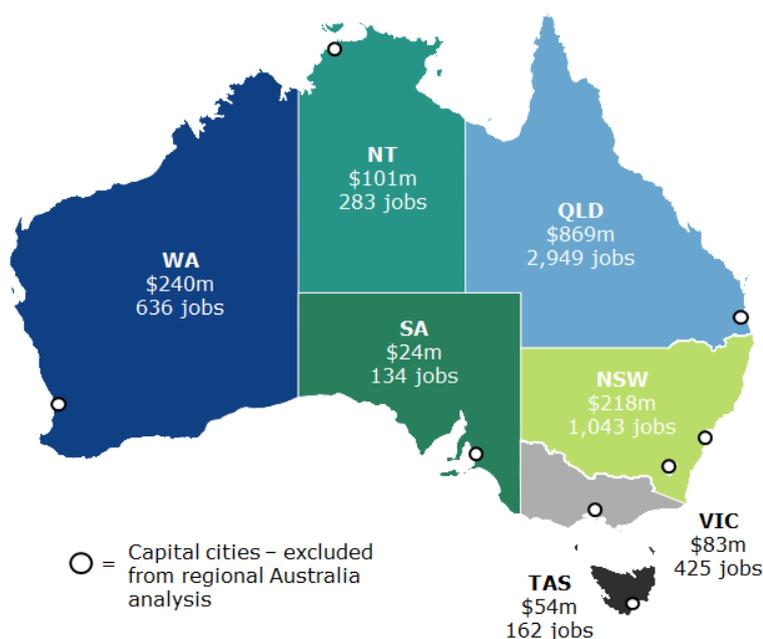
Deloitte Access Economics was commissioned by Qantas to estimate the economic contribution of its activities in regional Australia, including its role in facilitating tourism activity in regional Australia. The methodology adopted here is consistent with the approach taken by Deloitte Access Economics in the national 'Economic Contribution of the Qantas Group to Australia in FY17' report which was released in November 2017. The key findings of this report are set out below.

Deloitte Access Economics estimates that the activities of the Qantas group in regional Australia contributed **5,633 jobs** and **\$1.6 billion** in total value add in 2016-17.

- The Qantas Group operations in regional Australia directly contributes **\$884 million** in value added and indirectly contributes an additional **\$706 million** in value added.
- The Qantas Group directly provides **1,034 jobs** in regional Australia and indirectly supports an additional **4,599 jobs** in upstream industries such as catering and airport support staff.

The total economic contribution of operations by the Qantas Group constituted 0.3% of Gross Regional Product in regional Australia.

Figure i Economic contribution of Qantas' operations to regional Australia

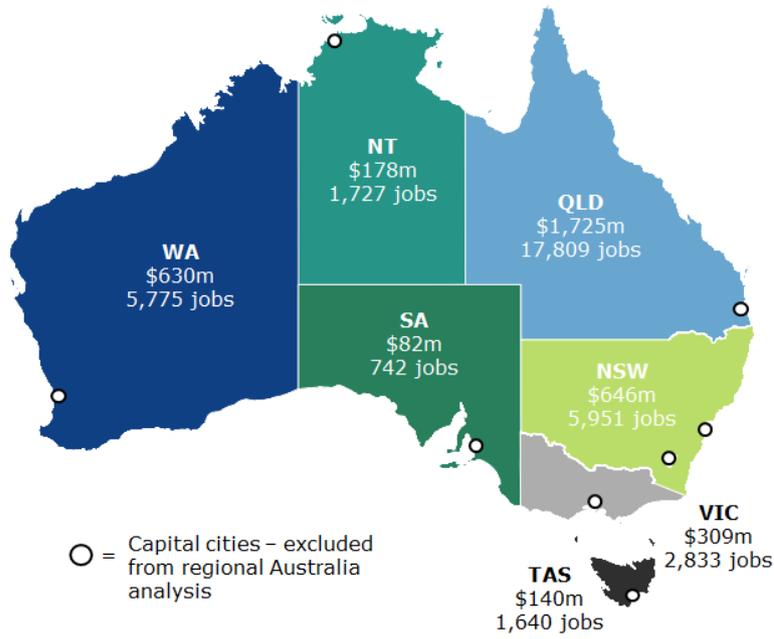


Source: Deloitte Access Economics

The role of the Qantas Group in facilitating tourism activity in regional Australia was estimated to contribute 36,477 jobs and \$3,709 million in value added to regional Australia in 2016-17.

- The tourism activity in regional Australia facilitated by the Qantas Group directly contributes **\$2,163 million** in value added and indirectly contributes an additional **\$1,546 million** in value added.
- This facilitated tourism activity directly provides **26,120 jobs** in regional Australia and indirectly supports an additional **10,357 jobs** in upstream industries such as agriculture.

Figure ii Economic contribution of Qantas Group's role in facilitating tourism in regional Australia



Source: Deloitte Access Economics

The total economic contribution of tourism activity facilitated by the operations by the Qantas Group constituted 0.7% of Gross Regional Product in regional Australia.

**Deloitte Access Economics**

# 1 Background

This report examines the economic contribution of the Qantas Group's operations in regional Australia, including its role in facilitating tourism in regional areas. Based on discussions with Qantas for the purposes of this study regional Australia has been defined as encompassing all regions outside of the capital cities e.g. Sydney, Melbourne, Brisbane, the ACT, Hobart, Adelaide, Darwin and Perth.

The scope of this analysis is limited to estimating the contribution of the operations by the Qantas Group in regional Australia and its role in facilitating tourism expenditure. It does not consider the broader role of the Qantas Group in improving the connectedness of regional communities. Access to air services provides important links for regional communities to family and friends throughout Australia and more broadly as well as access to essential medical services and supplies. The analysis also does not capture the value of air services in improving access to markets (although freight revenue is included) and the impact of air services on productivity (the latter is often referred to as the 'catalytic impacts' of air travel). These are all important dimensions of the role played by aviation in connecting regional communities.

The analysis has been undertaken by drawing on both publicly available data as well as data from the Qantas Group. In terms of operational data, the Qantas Group provided detailed revenue and expenditure figures for each airport it operates from in regional Australia, as well as employment numbers and passengers carried. The facilitated tourism analysis has been undertaken using route level data from Qantas and Jetstar in regional Australia, which can be used to estimate market shares for each airport, and tourism data on nights and expenditure by region from Tourism Research Australia.

The economic contribution of the Qantas Group's operations in regional Australia has been estimated based on an assessment of the level of output that occurs in regional Australia, rather than where the income from the supply of goods and services ultimately accrues.<sup>1</sup> In other words, the analysis focuses on where the production occurs. In the case of suppliers of intermediate inputs, the value added is attributed to the regional destination where the output occurs, even if the business is headquartered elsewhere.

The direct economic contribution for each region was estimated based on the gross operating surplus and labour income attributable to all regional airports that Qantas provides services to in regional Australia. In this respect, estimates of direct contribution were based on information from Qantas on wages paid, the number of passengers carried and the average fare they pay as well as the level of expenditure on intermediate inputs from other suppliers.

The indirect contribution to regional areas in each state and territory was calculated using a two stage process. The first stage involved estimating the flow-on activity associated with expenditure by the Qantas Group on intermediate inputs within each region. This involved applying a region specific input-output table developed from the Deloitte Access Economics Regional Input Output Model (DAE-RIOM) to estimate the *contribution of intermediate inputs that the Qantas Group purchased in each specific region*. The second stage involved estimating the contribution associated with the regional *supply of intermediate inputs to support activity by the Qantas Group in capital cities*. The second stage was estimated based on the direction of inter-regional trade flows in the DAE – RIOM.

The majority of Qantas Group's regional procurement is spent on: transport support services and storage activities, such as route navigation, landing fees, and security charges; and air and space transport activities. Spending in these areas has flow on benefits in upstream industries such as

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<sup>1</sup> In national accounting terms the approach is consistent with measuring Gross Domestic Product (or in this case Gross Regional Product) rather than Gross National Income (or equivalently Gross Regional Income).

professional, scientific and technical services, which supply security or navigation services or travel agency, employment and other administrative services, which supply other travel services.

For an organisation as diverse as the Qantas Group there is no perfect way of determining the proportion of activity attributable to the operations of the Qantas Group in regional Australia. However, given the data available, the approach taken in this study provides the most appropriate basis for estimating the contribution of the Qantas Group and its operations to regional Australia.

## 2 Economic contribution of regional operations

The economic contribution of the Qantas Group to regional Australia is shown in Table 2.1 below. The value added figures highlight the importance of regional activities to the Qantas Group's broader operations. The \$884 million in direct value added contributed by the Qantas Group's regional operations constitutes 13% of its national direct contribution. Similarly, the \$706 million in indirect value added contributed by the Qantas Group's regional operations constitutes 15% of the indirect contribution made by its national operations.

The direct employment figures refer to the number of people directly employed by Qantas and Jetstar in regional Australia. When the Qantas Group provided these figures, it was noted that their indirect employment contribution was much larger than their direct employment contribution as many positions in regional airports were outsourced to external contractors. By comparison, a greater proportion of the ground handling and catering staff in capital cities are employed directly. Indeed, while indirect employment associated with Qantas Group's regional operations constituted 15% of the national total, direct employment in regional Australia only constituted 5% of the national total.

In this respect, Qantas noted that **1,379 employees** were employed by external organisations to support their operations in airports in regional Australia who are not included in the estimates of direct employment provided below. Some flight crew servicing regional Australia may also be based in capital cities, although much of their work may be done in regional Australia.

Of the indirect value added, **\$389 million** was estimated to be attributable to the demand for intermediate inputs by the Qantas Group as a result of its operations in regional Australia, while \$317 million was attributable to demand for intermediate inputs from regional suppliers by the Qantas Group as a result of its operations in capital cities.

Table 2.1: Economic contribution of Qantas Group's operations in regional Australia

	Direct	Indirect	Total
<b>Value added (\$m)</b>	884	706	1,590
<b>Employment (FTEs)</b>	1,034	4,599	5,633

### 2.2 Economic contribution for regional areas within jurisdictions

Using the DAE – RIOM, Deloitte Access Economics estimated the contribution associated with Qantas Group operations in regional areas of each State (and the Northern Territory). The indirect value added and employment component is then adjusted upwards to account for intermediate inputs supplied to Qantas Group capital city airports by each region in the second stage of the analysis. The results are summarised in Table 2.2 below.

**Regional Queensland** captured the largest share of the Qantas Group's regional operations, as the Qantas Group is estimated to contribute almost **3,000 jobs** and **\$869 million** in value added to regional Queensland. In fact, the state accounts for more than half of the Qantas Group's contribution to value added and employment in regional Australia.

**Regional Western Australia** also accounts for a relatively large share of regional activity. The Qantas Group is estimated to contribute **636 jobs** and **\$240 million** in value add to regional Western Australia. Major regional airports in regional Western Australia include Karratha, Broome,

Port Headland, and Newman, which each attract a high volume of passenger traffic due to their proximity to mining activity.

**Regional New South Wales** also receives a large share of Qantas Group's regional economic contribution, where total activity contributes **1,043 jobs** and **\$218 million** in value added.

In the case of regional NSW (and regional Victoria) indirect value added and employment were substantially larger than direct value added and employment. This reflects the two step process involved in estimating the indirect contribution from regional to metropolitan areas. Regional New South Wales accounts for a moderate share of passenger activity in regional Australia but a large share of economic activity including the procurement of goods and services. As a result, the direct contribution to regional NSW (which depends on passenger share) is smaller than the indirect contribution (which depends on economic size).

In the case of NSW, **\$92 million** of indirect value added is attributable to expenditure in capital cities creating demand for the region where only **\$32 million** in indirect value added is due to intermediate inputs purchased as a result of operations by the Qantas Group in regional NSW. By comparison, in Queensland, the majority of indirect value added (**\$239 million**) is attributable to demand for intermediate inputs from operations in regional Queensland given the significant size of Qantas Group's operations in regional Queensland.

Table 2.2: Economic contribution for regional areas in each state and territory

	<b>Direct</b>	<b>Indirect</b>	<b>Total</b>
<b>Value added (\$m)</b>			
Regional Queensland	529	341	869
Regional Western Australia	140	100	240
Regional NSW	95	124	218
Regional Northern Territory	64	37	101
Regional Tasmania	30	24	54
Regional Victoria	23	60	83
Regional South Australia	4	20	24
Regional Australia	884	706	1,590
<b>Employment (FTEs)</b>			
Regional Queensland	719	2,230	2,949
Regional Western Australia	1	635	636
Regional NSW	237	806	1,043
Regional Northern Territory	30	253	283
Regional Tasmania	-	162	162
Regional Victoria	47	378	425
Regional South Australia	-	134	134
Regional Australia	1,034	4,599	5,633

Source: Deloitte Access Economics. Note: All figures have been rounded to the nearest unit so totals may be subject to rounding errors.

### 2.3 Economic contribution for selected regional areas

Deloitte Access Economics was also asked by the Qantas Group to estimate the economic contribution of six regional areas selected by Qantas Group, namely Gold Coast, Townsville, Alice Springs, Broome, Longreach and New England.<sup>2</sup>

<sup>2</sup> For the purpose of creating economic contribution regions, SA4s by the same namesake were used for the Gold Coast and New England, and SA3s by the same namesake were used for Alice Springs and Townsville as

Of the regional areas selected, the coastal Queensland airports make up the largest share of the regional contribution, with the Qantas Group contributing **655 jobs** and **\$193 million** in value added to the Gold Coast and **254 jobs** and **\$85 million** in value added to Townsville. The Qantas group contributes **183 jobs** and **\$69 million** in value added to Alice Springs.

Table 2.3: Economic contribution for selected regional areas

	Direct	Indirect	Total
<b>Value added (\$m)</b>			
Gold Coast	114	79	193
Townsville	52	33	85
Alice Springs	44	26	69
Broome	36	13	48
New England	12	9	22
Longreach	2	2	4
<b>Employment (FTEs)</b>			
Gold Coast	166	489	655
Townsville	37	217	254
Alice Springs	30	153	183
Broome	-	83	83
New England	73	62	135
Longreach	-	14	14

Source: Deloitte Access Economics. Note: All figures have been rounded to the nearest unit so totals may be subject to rounding errors.

they best represented the regions in question. For the remaining regions, Longreach was represented by the Outback – South SA3 and Broome was represented by the Kimberly SA3.

# 3 Facilitated tourism contribution

In addition to supporting jobs and economic activity in regional areas through its operations, the Qantas Group also plays an instrumental role in supporting tourism in regional Australia. The approach to estimating the facilitated tourism contribution of the Qantas Group to regional Australia was based on data on passengers carried from the Qantas Group and visitor expenditure data from Tourism Research Australia.

Estimates of the share of domestic air travellers using Qantas Group aircraft were derived for each region based on data from Qantas on route level passenger flows. For international travellers, estimates of market share by source country were mapped to the distribution of visitor nights by region and source country to estimate international visitor nights by region. Tourism expenditure was estimated by multiplying the average length of stay in each region by the average amount spent per night by each visitor, and was based on data from the National and International Visitor Surveys published by Tourism Research Australia.

In line with the approach used to estimate the economic contribution associated with Qantas Group's operations in regional Australia, a two stage process was undertaken to estimate the indirect contribution of facilitated tourism in regional Australia. The estimates of indirect contribution provided include both: the contribution of expenditure by tourists in a specific region on value added and employment in that region; and the contribution of expenditure by tourists in metropolitan areas on the demand for inputs from a specific region in regional Australia – for example when a tourist purchases a coffee in Sydney, some of the milk used to produce that coffee is likely to come from regional NSW.

Facilitated tourism activity by the Qantas Group was estimated to contribute 36,477 jobs and \$3,709 million in value added to regional Australia in 2016-17 (see Table 3.1).

Table 3.1: Economic contribution of Qantas Group to regional Australia

	Direct	Indirect	Total
<b>Value added (\$m)</b>	2,163	1,546	3,709
<b>Employment (FTEs)</b>	26,120	10,357	36,477

## 3.2 Facilitated tourism for regional areas within each jurisdiction

The expenditure of tourists carried by Qantas group was estimated to contribute **17,809 jobs** and **\$1,725 million** in value added to regional Queensland (see Table 3.2 below). Indeed, regional Queensland accounts for almost half of the total facilitated tourism value added in regional Australia by the Qantas Group.

The expenditure of tourists carried by Qantas group was also estimated to make a relatively large contribution to regional **Western Australia**, contributing **5,775 jobs** and **\$630 million** in value added.

Tourism expenditure facilitated by the Qantas Group was estimated to contribute 5,951 jobs and \$646 million in value added to regional New South Wales.

Table 3.2: Economic contribution for regional areas in each state and territory

	<b>Direct</b>	<b>Indirect</b>	<b>Total</b>
<b>Value added (\$m)</b>			
Regional Queensland	1,075	650	1,725
Regional Western Australia	416	214	630
Regional NSW	300	346	646
Regional Northern Territory	131	47	178
Regional Tasmania	85	55	140
Regional Victoria	129	180	309
Regional South Australia	26	56	82
Regional Australia	2,163	1,546	3,709
<b>Employment (FTEs)</b>			
Regional Queensland	13,400	4,409	17,809
Regional Western Australia	4,451	1,325	5,775
Regional NSW	3,625	2,326	5,951
Regional Northern Territory	1,418	309	1,727
Regional Tasmania	1,239	401	1,640
Regional Victoria	1,640	1,193	2,833
Regional South Australia	349	393	742
Regional Australia	<b>26,120</b>	<b>10,357</b>	<b>36,477</b>

Source: Deloitte Access Economics. Note: All figures have been rounded to the nearest unit so totals may be subject to rounding errors.

### 3.3 Facilitated tourism for selected regional areas

Deloitte Access Economics has also estimated the facilitated tourism contribution of the six regional areas selected by Qantas Group, namely Gold Coast, Townsville, Alice Springs, Broome, Longreach and New England (see Table 3.3 below).

Of the regional areas selected, the expenditure of tourists carried by Qantas Group to coastal airports in Queensland made the largest contribution. The expenditure of visitors traveling on Qantas Group contributes **6,449 jobs** and **\$614 million** in value added to the Gold Coast and **1,330 jobs** and **\$126 million** in value added to Townsville.

Table 3.3 Economic contribution for selected regional areas

	<b>Direct</b>	<b>Indirect</b>	<b>Total</b>
<b>Value added (\$m)</b>			
Gold Coast	409	205	614
Townsville	81	45	126
Alice Springs	56	21	77
Broome	57	20	78
New England	25	26	52
Longreach	2	3	5
<b>Employment (FTEs)</b>			
Gold Coast	5,046	1,404	6,449
Townsville	1,022	308	1,330
Alice Springs	619	139	758
Broome	622	130	752
New England	322	182	504
Longreach	24	23	47

Source: Deloitte Access Economics. Note: All figures have been rounded to the nearest unit so totals may be subject to rounding errors.

# Appendix A: Economic contribution approach

Economic contribution studies are intended to quantify measures, such as value added, exports, imports and employment associated with a given industry or firm, in a historical reference year. The economic contribution is a measure of the value of production by a firm or industry.

All direct, indirect and total contributions are reported as GOS, labour income, value added and employment (with these terms defined in Table A.1).

Table A.1: Definitions of economic contribution estimates

Estimate	Definition
GOS	GOS represents the value of income generated by the entity's direct capital inputs, generally measured as the earnings before interest, tax, depreciation, and amortisation (EBITDA).
Labour income	Labour income is a subcomponent of value add. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour.
Value added	Value added measures the value of output (i.e., goods and services) generated by the entity's factors of production (i.e., labour and capital) as measured in the income to those factors of production. The sum of value added across all entities in the economy equals GDP. Given the relationship to GDP, the value added measure can be thought of as the increased contribution to welfare.
Employment (FTE)	Employment is a fundamentally different measure of activity to those above. It measures the number of workers (measured in FTE terms) that are employed by the entity, rather than the value of the workers' output.
Direct economic contribution	The direct economic contribution is a representation of the flow from labour and capital committed in the economic activity.
Indirect economic contribution	The indirect contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by economic activity.
Total economic contribution	The total economic contribution to the economy is the sum of the direct and indirect economic contributions.

Source: Deloitte Access Economics.

## Definitional notes

When calculating the GOS for a typical for-profit firm or industry, income streams from government (such as transfers or production subsidies) are excluded as they are a transfer of public funds, not reflective of income generated by the activities of the firm or industry.

Similarly, value added is typically calculated as GOS, plus labour income net of subsidies under the ABS Australian System of National Accounts (ABS 2013):

*A subsidy on a product is a subsidy payable per unit of a good or service. An enterprise may regard a subsidy as little different from sales proceeds. However, in the national accounts, subsidies are regarded as transfer payments from general government, enabling enterprises to sell their output for less than would otherwise be the case.*

## Value added

The measures of economic activity provided by this contribution study are consistent with those provided by the ABS. For example, value added is the contribution the sector makes to total factor income and GDP.

There are a number of ways to measure GDP, including:

- **Expenditure approach**—Measures expenditure: of households, on investment, government and net exports and
- **Income approach**—Measures the income in an economy by measuring the payments of wages and profits to workers and owners.

Below is a discussion on measuring the value added by an industry using the income approach.

### Measuring the economic contribution—income approach

There are several commonly used measures of economic activity, each of which describes a different aspect of an industry's economic contribution:

- **Value added** measures the value of output (i.e., goods and services) generated by the entity's factors of production (i.e., labour and capital) as measured in the income to those factors of production. The sum of value added across all entities in the economy equals GDP. Given the relationship to GDP, the value added measure can be thought of as the increased contribution to welfare.

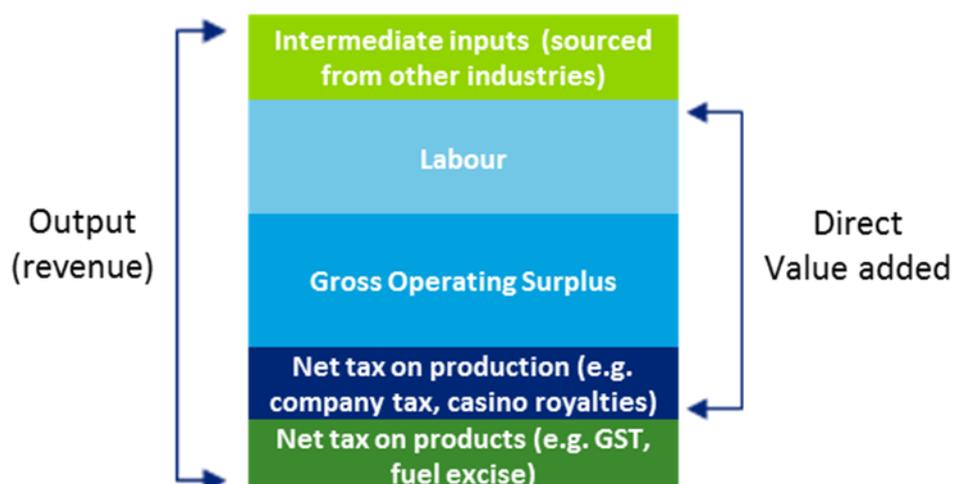
Value added is the sum of:

- GOS represents the value of income generated by the entity's capital inputs, generally measured as the earnings before interest, tax, depreciation and amortisation (EBITDA).
- Tax on production, less subsidy provided for production. Note: Given the manner in which returns to capital before tax are calculated, company tax is not included or this would double-count that tax. In addition, it excludes goods and services tax, which is a tax on consumption (i.e., levied on households).
- Labour income is a subcomponent of value added. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour.

Figure A.1 shows the accounting framework used to evaluate economic activity, along with the components that make up *output*. Output is the sum of value added and the value of intermediate inputs used by the firm or industry.

The value of intermediate inputs can also be calculated directly by summing up expenses related to non-primary factor inputs.

Figure A.1: Economic activity accounting framework



Source: Deloitte Access Economics.

Contribution studies generally outline employment contributed by a sector. Employment is a fundamentally different measure of activity to those above. It measures the number of workers that are employed by the entity, rather than the value of the workers' output.

### Direct and indirect contributions

The **direct** economic contribution is a representation of the flow of labour and capital to the entity.

The **indirect** contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by the direct economic activity of the entity. Estimation of the indirect economic contribution is undertaken in an IO framework using ABS IO tables which report the inputs and outputs of specific sectors of the economy (ABS 2017).

The total economic contribution is the sum of the direct and indirect economic contributions.

Other measures, such as total revenue or total exports, are useful measures of economic activity, but these measures alone cannot account for the contribution made to GDP. Such measures overstate the contribution to value added because they include activity by external firms supplying inputs. In addition, they do not discount the inputs supplied from outside Australia.

### Limitations of economic contribution studies

While describing the geographic origin of production inputs may be a guide to a firm or industry's linkages with the local economy, it should be recognised that these are the type of normal industry linkages that characterise all economic activities.

Unless there is unused capacity in the economy (such as unemployed labour), there may not be a strong relationship between a firm's economic contribution as measured by value added (or other static aggregates) and the welfare or living standard of the community. The use of labour and capital by demand created from the industry comes at an opportunity cost as it may reduce the amount of resources available to spend on other economic activities. This is not to say that the economic contribution, including employment, is not important. As stated by the Productivity Commission in the context of Australia's gambling industries: (Productivity Commission 1999):

*Value added trade and job creation arguments need to be considered in the context of the economy as a whole ... income from trade uses real resources, which could have been employed to generate benefits elsewhere. These arguments do not mean that jobs, trade and activity are unimportant in an economy. To the contrary they are critical*

*to people's well-being. However, any particular industry's contribution to these benefits is much smaller than might at first be thought, because substitute industries could produce similar, though not equal gains.*

In a fundamental sense, economic contribution studies are simply historical accounting exercises. No 'what-if,' or counterfactual inferences—such as 'what would happen to living standards if the firm or industry disappeared?'—should be drawn from them.

The analysis—as discussed in the report—relies on a national IO table modelling framework and there are some limitations to this modelling framework. The analysis assumes that goods and services provided to the sector are produced by factors of production that are located completely within the state or region defined and that income flows do not leak to other states.

The IO framework and the derivation of the multipliers also assume that the relevant economic activity takes place within an unconstrained environment. That is, an increase in economic activity in one area of the economy does not increase prices and subsequently crowd out economic activity in another area of the economy. As a result, the modelled total and indirect contribution can be regarded as an upper-bound estimate of the contribution made by the supply of intermediate inputs.

Similarly, the IO framework does not account for further flow-on benefits as captured in a more dynamic modelling environment like a Computable General Equilibrium (CGE) model.

### **IO analysis**

IO tables are required to account for the intermediate flows between sectors. These tables measure the direct economic activity of every sector in the economy at the national level. Importantly, these tables allow intermediate inputs to be further broken down by source. These detailed intermediate flows can be used to derive the total change in economic activity associated with a given direct change in activity for a given sector.

A widely used measure of the spill-over of activity from one sector to another is captured by the ratio of the total to direct change in economic activity. The resulting estimate is typically referred to as 'the multiplier.' A multiplier greater than 1 implies some indirect activity, with higher multipliers indicating relatively larger indirect and total activity flowing from a given level of direct activity.

The IO matrix used for Australia is derived from the ABS 2014–15 IO tables, the latest available IO data at the time of the analysis. The industry classification used for IO tables is based on the Australian and New Zealand Standard Industrial Classification, with 114 sectors in the modelling framework.

# Appendix B: Facilitated tourism contribution

Noting the vital role the Qantas Group plays in facilitating Australia's tourism industry, this analysis has also evaluated the economic contribution made through the Qantas Group's role in facilitating both domestic and international tourism.

## **Methodology for calculating the facilitated contribution of domestic tourism**

To estimate the economic contribution of domestic tourism expenditure facilitated by the Qantas Group, in the first stage market share information by route provided by the Qantas Group was matched to data on passenger numbers on each route from the Bureau of Infrastructure, Transport and Regional Economics (BITRE). This was used to calculate estimates of passenger numbers carried by Qantas and Jetstar on each route.

Routes were aggregated to a regional level by aggregating passenger flows to each airport within the region. To calculate regional expenditure, information on average expenditure per night from the TRA National Visitor Survey (2017) was combined with other data from TRA on visitor numbers and visitor nights for those travelling interstate and intrastate by air.

This data is then subject to some further adjustments in the fourth stage to ensure it is consistent with the expenditure profile of airline travellers noting that expenditure estimates are based on all domestic tourists not just airline travellers.

- First, all expenditure on domestic airfares is excluded to avoid double-counting expenditure already included in the economic contribution of the Qantas Group.
- Second, expenditure on vehicle maintenance and repairs is excluded on the basis that this is more likely to be incurred by those on driving holidays.
- Finally, expenditure on fuel is reduced to the average amount per day incurred by international tourists as those travelling by air are expected to spend less on fuel than those travelling to a destination by car. These assumptions are likely to be conservative because it is likely that air travellers have a higher average expenditure per night than those travelling by car or bus.

The next stage involves adjusting tourism expenditure, which is recorded in purchaser prices to internal tourism consumption at basic prices by removing the impact of imports and net taxes on production and adjusting for imputed consumption. Finally, IO modelling is used to convert internal tourism consumption by item to estimates of direct and indirect value added and indirect and direct employment.

## **Methodology for calculating the facilitated contribution of international tourism**

A similar procedure was used to estimate the economic contribution of international tourism facilitated by the Qantas Group. Estimating the market share of Qantas and Jetstar is more complicated in the case of international tourism. While BITRE has information on airline travel by route, this does not map neatly to country of origin for some countries and does not account for differences in the ratio of foreign to local residents carried by different airlines.

Tourism Australia does provide airline share data for some of Australia's largest source countries, which can be used for these countries based on data from the Department of Immigration and Border Protection. Deloitte Access Economics also received detailed data from Qantas and Jetstar on incoming passengers by point of sale. While point of sale is not a perfect measure of country of origin, it is likely to be a reasonable approximation. This can then be used to estimate market share

of arrivals (after adjusting for the fact that some travellers are not short-term visitors, but longer-term visitors or permanent settlers).

The market share of Qantas and Jetstar by country of origin was estimated by combining the airline share data reported by Tourism Australia (2016) (where available) with estimated market shares from point of sale data for source markets not reported on by Tourism Australia.

In the second stage, this data was multiplied by estimates of expenditure (excluding prepaid airfares and package tours) by international visitors for each region from TRA. The resulting estimates reflect the total international tourism expenditure for each region attributable to tourists travelling on Qantas or Jetstar.

The next stage involves adjusting this expenditure to exclude expenditure on international and domestic airfares in Australia to avoid double counting any expenditure as part of the direct economic contribution. As for the domestic tourism expenditure, this was then converted to tourism consumption at basic prices and then converted to estimates of direct and indirect value added and employment using IO modelling.

# Limitation of our work

## General use restriction

This report is prepared solely for the use of the Qantas Group. This report is not intended to, and should not be, used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of estimating the economic contribution of the activities of the Qantas Group in regional Australia for FY17. You should not refer to or use our name or the advice for any other purpose.

# Deloitte.

## Access Economics

### **Deloitte Access Economics**

ACN: 149 633 116  
8 Brindabella Circuit  
Brindabella Business Park  
Canberra Airport ACT 2609  
Tel: +61 2 6263 7000  
Fax: +61 2 6263 7004

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