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# The Economic Contribution of the Cruise Shipping Industry to Australia

Report by Access Economics Pty Limited for

**Carnival Australia**

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## EXECUTIVE SUMMARY

Carnival Australia commissioned Access Economics to report on the contribution of the cruise industry to the Australian economy, and initiatives to support better decision making, notably in the area of port infrastructure planning. In summary the report findings are:

**Direct and indirect cruise-related expenditure in Australia in the 2006-07 fiscal year totalled \$734 million;** within this total, the economic activity relating to days spent at Australian ports accounted for **\$522 million**, while other expenditure on cruise line offices, repairs, maintenance, travel agents, call centres, advertising and marketing is estimated to be **\$212 million**.

Splitting the total of **\$734 million** another way, **direct** cruise-related expenditures were **\$382 million** and the flow-on impact from **indirect** expenditures by supplying industries (such as fuel suppliers, food suppliers, tour operators and travel agents) totalled **\$352 million**. Of the **\$522 million** of direct and indirect expenditure related to when ships are at port, NSW (of which 99% was in Sydney) attracted **\$228 million** and Queensland (of which 81% was in Brisbane) attracted **\$164 million** in 2006-07.

During 2006-07 **direct and indirect value added** by the cruise industry (ie expenditure less raw materials) was **\$343 million**. Value added is the most appropriate quantity to use when making comparisons with GDP.

### Australians growing propensity to cruise

The number of Australian residents who took a cruise anywhere in the world totalled 116,300 persons in 2002, increasing to over 250,000 in 2007 – an annual growth rate of 16.7%.

Australians are showing a greater propensity to cruise at a time where the sector is growing at a higher rate to other tourism sectors; including the wine tourism sector.

Further, rising incomes and the retirement of the Baby Boomer generation over the coming decade creates a conducive climate for high-end leisure products such as cruising.

### Activity in the Australian cruise market

The cruise industry in Australia has grown strongly in recent years, and is projected to continue to do so over the next three years. Growth in home based activity has increased every year since 2003, with the exception of a slight decrease in 2006. Estimates – based on port bookings and Carnival data – for the years 2008 to 2010 show further growth in the sector. With the inclusion of projected growth figures to 2010, the Australian based cruise activity is set to increase three times over the activity in 2004.

### Infrastructure Limitations

The port infrastructure requirements of a large, modern cruise ship are significant. Land-side heavy vehicle access (both coaches for passengers and semi-trailers for restocking) is an important aspect of planning a cruise terminal. Moreover the larger ships in the international cruise shipping fleet struggle with the current infrastructure. Ships are too tall for the Sydney

Harbour Bridge and Brisbane's Gateway Bridge, and the swing basin in Brisbane also presents challenges for ships over 270m in length.

The planning challenges are considerable, and it requires a long lead time to undertake the necessary planning, feasibility and environmental studies for new port facilities. Better information would help governments and infrastructure owners plan for future growth with greater certainty. The following problems, with associated recommendations (see below) have been identified: ;

- ❑ *Data on future trends is patchy*
- ❑ *Port planning is too cargo focussed*
- ❑ *Ship sizes are changing rapidly*
- ❑ *Multi-port voyages are too hard to book*
- ❑ *Data is essential for good planning*

A current deficiency is the lack of reliable information on future trends to inform good planning decisions by governments and infrastructure owners. In the general tourism sector Tourism Forecasting Committee (TFC) is charged with identifying future trends and developing forecasts to aid in planning.

*Data on future trends is patchy: establish an independent cruise demand forecasting capability, possibly under the existing TFC.*

The existing standard of infrastructure has the potential to constrain the development of the cruise industry in Australia, with relatively little cruise-dedicated port infrastructure. Other countries in the region are developing such dedicated infrastructure, and thus are well-positioned to compete for cruise business, particularly transit cruises on world tours.

Many of these problems in Australian infrastructure arise from facilities being designed for cargo purposes, without the flexibility to be used for cruise ships, or with cruise ships being a mere 'afterthought'. Multi purpose berths – designed with cruise shipping in mind, so that facilities are appropriate to handling both cargo and passengers – are a potential solution to the challenge of providing appropriate facilities for cruise shipping, while also ensuring a commercial return to infrastructure owners.

*Port planning is too cargo focussed: ensure planning and approval processes give greater consideration to dedicated and multi-purpose cruise facilities.*

Even where berths are dedicated for cruise shipping, there are limitations due to nearby residents or problems that arise due to the location of the berth, such as in Brisbane, with 63 apartments in the Portside Wharf complex. Land-side heavy vehicle access into the Sydney Overseas Passenger Terminal is also a challenge. The distinction between mixed-use berths versus multi-purpose berths is important.<sup>1</sup>

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<sup>1</sup> Multi-purpose berths refer to berths capable of handling large cruise, cargo or navy ships. Mixed-use berths refer to the practice of having large cruise ships berthed alongside shops and apartments. If designed well, multi-purpose berths could be the path towards more efficient infrastructure provision. Mixed-use berths, however, tend to create incompatible neighbours and land-side access issues.

*Ship sizes are changing rapidly: conduct an independent study into future trends in ship size to better inform decision making by planners regarding berth location.*

Further infrastructure problems arise from the port-specific 'first in, best dressed' booking systems currently used in Australia. The need to book individually at each port places Australia at an unnecessary disadvantage in attracting ships looking to make multiple-port voyages around Australia, which in turn requires the cruise operator to secure sequential port bookings. An alternative approach could be to create a national cruise terminal booking system, possibly modelled on that of Airport Coordination Australia, to reduce administration and to ensure slots at congested ports or slots at peak times are allocated optimally.

Currently, for the peak month of February 2009, berth capacity in Sydney is already 70% booked and in Brisbane is over 50%.

*Multi-port voyages are too hard to book: improve port booking systems to ensure an optimal allocation of the available berth capacity, and to facilitate sequential port bookings for cruises that visit multiple ports in Australia.*

The current infrastructure challenges Australia faces, combined with the highly mobile nature of cruise ships, mean that the consequences of poor planning and bad decisions may transmit relatively quickly to become lost opportunities for Australia.

### **Improvements in the future**

As discussed above the cruise sector is not well understood. The official Government statistical agencies (the Australian Bureau of Statistics, Tourism Research Australia and the Bureau of Infrastructure, Transport and Regional Economics) are not actively compiling any data on this sector.

The ABS's Tourism Satellite Account does not include the cruise sector and the agencies arrivals and departures data does not serve the industry well. It is the same scenario with Tourism Research Australia's visitor surveys. Both the domestic and international surveys are based on surveys in airport lounges. Statistical collections based on Immigration Passenger Cards omit many round trip cruises embarking from Australian ports.

*Data is essential for good planning: capturing cruise passengers in Tourism Research Australia's International Visitors Survey, and making better use of Passenger Card data would result in better-informed decisions for the cruise industry.*

**Access Economics**

**May 2008**

## 1. INTRODUCTION

Carnival Australia commissioned Access Economics to report on the contribution of the cruise industry to the Australian economy, and initiatives to support better decision making, notably in the area of port infrastructure planning.

The previous reports include a series of economic contribution studies conducted by the AECgroup for CDU. The work has focussed too narrowly on the expenditures directly related to the economic activity that occurs on the day the ship is at port, namely: the activities of passengers and crew while embarking, disembarking or transiting through a port, and the restocking of the ship while in port.

This report provides a more comprehensive source of information on the industry than was previously available. The aim of the report is to foster a greater understanding of the industry and to support better decision making, notably in the area of port infrastructure planning.

After an initial discussion of the cruise industry the remainder of this report considers the economic contribution of cruise shipping to Australia for the 2006-07 financial year, and is structured as follows:

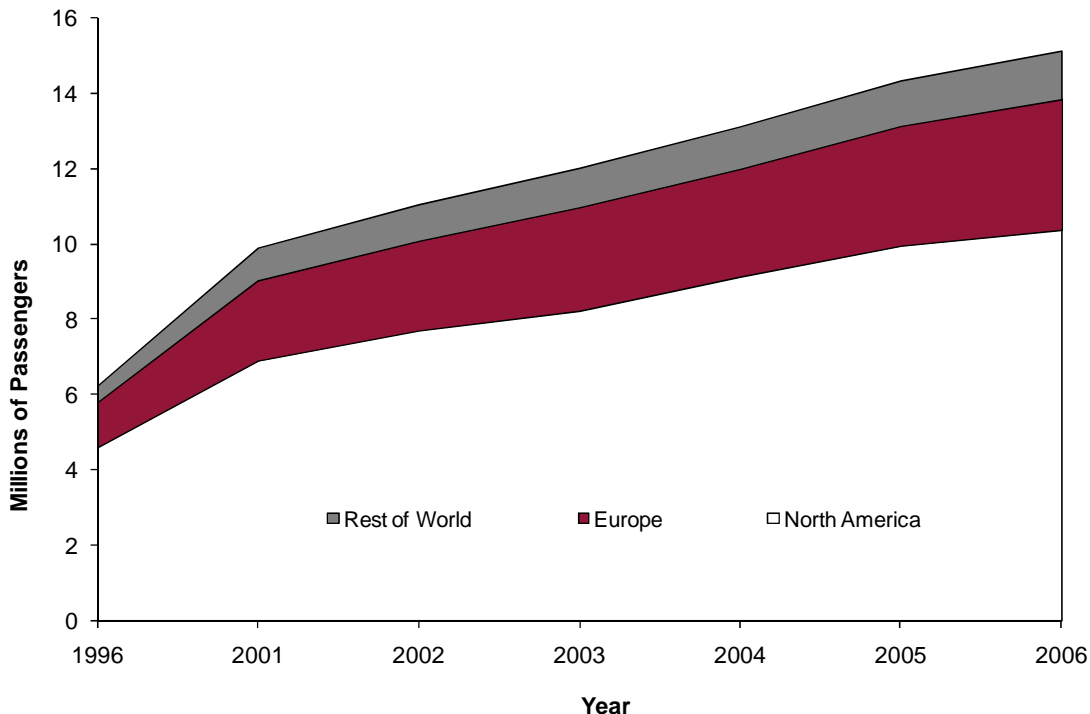
- ❑ Section 2 provides definitions of the cruise industry and defines market categories;
- ❑ Section 3 broadly discusses trends about visits and cruise tourism passenger numbers in Australia;
- ❑ Section 4 provides estimates of the economic contribution of the cruise shipping industry on the Australian economy;
- ❑ Section 5 discusses some of the infrastructure limitations Australia presently faces in further development of the cruise tourism sector;
- ❑ Section 6 discusses results at a state level and provides more localised discussion of infrastructure; and
- ❑ Section 7 makes concluding remarks and discusses some significant data limitations that hamper the economic analysis of cruise tourism.

Several appendices provide more information on definitions, methodology, and an appraisal of the previous CDU–AECgroup report on the Australian cruise shipping industry.

### 1.1 BACKGROUND: THE GLOBAL CRUISE INDUSTRY

The global cruise industry is growing at a rapid pace. In 2006, the total global market generated 15.2 million passenger cruises, reflecting a 9.2% compound annual growth rate since 1996. The largest market is North America, with 10.38 million passengers in 2006. Global activity is concentrated in North America, with Florida and the Caribbean playing host to the majority of global activity.

**FIGURE 1.1: OCEAN CRUISE PASSENGERS WORLDWIDE 1996-2006, MILLIONS**



Source: Contribution of Cruise Tourism to the Economies of Europe, 2008 Edition, GP Wild International

**Capacity**

Capacity in the world market has increased over the period 2000 to 2005, with capacity expected to increase over the period 2005 to 2010. Table 1.1 outlines the number of ships servicing the cruise sector, the number of berths and the average size of the ships. On all fronts total capacity in the sector is increasing. The number of ships increased from 245 to 253 in the period 2000 to 2005; notwithstanding 25 ships decommissioned in 2004-05. Over the same period berth numbers have increased from 241,000 to 332,000; further, it is expected the number of berths are to increase to 440,000 by 2010.

**TABLE 1.1: WORLD BERTH CAPACITY, 2000-2010**

Year	Ships	Berths ('000)	Average Capacity	Growth in Average Capacity (%)
2000	245	241	983	
2005	253	332	1312	33.6
2010	274	440	1606	22.4

Source: *The Future of Cruising Boom or Bust? A Worldwide Analysis to 2015*

Capacity is all important in the cruise sector: the supply of new generation ships has generated an expansion in facilities.<sup>2</sup> Newer markets are viewed as being more likely to

<sup>2</sup> *The World Cruise Shipping Industry to 2020* Ocean Shipping Consultants page 181

expand rapidly if they are serviced by the newer ships. That noted, in a sector where capital is highly mobile it is reasonable to expect that ships will service markets that offer the highest expected returns.

There are flow on effects to Australia of these improvements in cruise ships and international facilities. If Australia is to build an economically viable cruise industry, it is necessary to be both price and infrastructure competitive, while balancing that with the commercial returns required by infrastructure owners.

If port charges mean it is too expensive to visit a particular destination, or the facilities are inadequate for larger ships or perceived as otherwise unsatisfactory, these new larger ships will bypass that destination, preferring other destinations that have more suitable facilities and prices. Given the high levels of government intervention in some competing countries, Australia will need to find sources of competitiveness to ensure it continues to attract cruise ships. The Harbour, the Reef and an increasingly prosperous population certainly help give Australia a comparative advantage in attracting cruise ships, but improved planning of infrastructure and creative solutions to avoid bottlenecks are also needed.

### Economic contribution in the US market

The 2006 contribution of the North American cruise sector to the US economy has been estimated at \$35.7 billion; up from \$32.4 billion in 2005. The 2006 contribution is based on \$17.64 billion in passenger and cruise line spending (Table 1.2).

**TABLE 1.2: ECONOMIC CONTRIBUTION OF THE NORTH AMERICAN CRUISE INDUSTRY 2002 -2006**

	2002	2003	2004	2005	2006
<b>Direct Economic Impacts</b>					
Passenger and cruise line spending (\$ billion)*	11.95	12.92	14.70	16.18	17.64
Employment	109,553	117,353	135,197	142,720	153,863
Wages and Salaries (\$ billion)	3.92	4.29	4.8	5.19	5.74
<b>Total Economic Impacts</b>					
Total Output (\$ billion)	20.40	25.44	30.06	32.43	35.73
Employment	279,112	295,077	315,830	330,346	347,966
Wages and Salaries (\$ billion)	10.66	11.62	12.42	13.52	14.73

Source: *The Contribution of the North American Cruise Industry to the US Economy in 2006, Business Research & Economic Advisors August 2007.* \* Includes wages and salaries paid to US employees of cruise lines.

The size of the contribution – measured in total output – has increased from \$20.4 billion in 2002. Compared to the 2006 figure this represents an increase in the industry of about 75%.

The US study accounted for five sources of economic activity:

- Spending by cruise passengers and crew (including spending on travel from and to port and pre and post cruise vacation spending);
- Shore-side staffing;
- Expenditure by cruise lines for goods and services (includes head office expenditure);
- Cruise line spending on port services (at US ports of call and embarkation); and,
- Expenditure on maintenance and repair (at US shipyards).

The findings on the economic contribution of cruise shipping to the US economy demonstrate the rapidly growing nature of the cruise tourism sector, and the size of the flow-on effects of the same.

The growth in the North American market is driving investment in port facilities and infrastructure. This includes terminal upgrades at base ports facilities like at Port Everglades; Florida's third largest facility. The capitalisation is also taking place at destination ports in the Mexican Riverina with the construction of a shore excursion pier at Cozumel. The Anillities island of St. Maarten is also expanding its facilities with a post-Panamax pier currently under construction.

### **Economic contribution in the European market**

An economic contribution assessment of the European cruise industry found the sector was worth a total of € 23.9 billion; including a direct contribution of € 10.6 billion. The assessment was based on a passenger purchases, cruise line purchases, employee expenditure and the value of ship building.

The later category is the largest and most important segment of the cruise market; contributing about 40 per cent of expenditure. Moreover the sector contributes a total of 225,586 jobs; with 107,780 employed directly in the sector. Manufacturing the largest employer with almost 70,000 persons employed, followed by Transport with just over 66,000 employees.

Of the European markets Italy is the largest with about € 3.2 billion in direct expenditure; this reflects the southern European countries dominance in the manufacturing sector and it being the largest tourist market in Europe. Italy is also home to Europe's second busiest port; Civitavecchia.

The UK was the second largest market with € 1.8 billion in expenditure, based on a strong tourist sector. Germany – with € 1.7 billion is the remaining country with over a billion in direct expenditure – contribution is built off its cruise ship construction and maintenance sectors and Europe's second largest passenger market.

Notwithstanding Spain being home of some of Europe's busiest ports (Barcelona and Palma Majorca) the direct expenditure comes in fifth at € 780 million after France with € 849 million.

## 2. DEFINITION OF CRUISING

The CDU-AECgroup report defines cruise shipping as: *a vessel undertaking scheduled deep water cruises of two or more days with a passenger capacity of 100 or more*. The authors note that the definition is well suited to the current market situation. But as product differentiation occurs – that is as more exclusive smaller offerings are made – the market place may undermine this definition. This definition is also adopted for this report.

### Market segments

The CDU-AECgroup report proposes the following market segments, see Table 2.1:

**TABLE 2.1: MARKET SEGMENTS BY PASSENGER CAPACITY**

Market Segment	Passengers	Example
Niche market	Less than 500 passengers	Seabourn Spirit with 204 passengers
Lower capacity	500 to 1,250 passengers	P&O's Pacific Princess at 686 passengers
Medium capacity	1,250 to 2,000 passengers	Pacific Dawn with 2,000 passengers
High capacity	More than 2,000 passengers	Cunard's Queen Mary 2 (QM2) with 3,090 passengers

Source: CDU-AECgroup

Cruise ships can also be characterised on the size and operational purpose; Tourism Queensland proposes the following definitions.

- ❑ Expedition and adventure cruise ships
  - Smaller ships that, because of their relative size (and low infrastructure needs), can visit more destinations. The report notes the class is classified by higher passenger return visits and higher base port spend. But competition with day trips operations places downward pressure on operator yields.
- ❑ Boutique cruise ships
  - Usually smaller ships providing a higher quality product. The higher yield end of the market is targeted; also, passengers are likely to consider a return visit.
- ❑ Mid-size cruise ships
  - Larger ships with greater port infrastructure needs than those above; their size also generates demand for shore tours and facilities.
- ❑ Mega-cruise ships
  - Examples include the QM2; need significant port infrastructure to operate so visits are generally limited to large cities.
- ❑ Military ships
  - Military ships are excluded, though the high spending by visiting crew can have similar impact to traditional cruise ships (such as the USS Kitty Hawk's recent visit to Sydney).

### 3. ACTIVITY IN THE INDUSTRY

The level of cruise tourism activity in Australia has increased significantly in recent years, and is expected to continue growing rapidly, based on forward schedules. Both the number and size of the ships visiting Australia have increased in recent years, while the number of high-yielding home-based ships has also increased.

#### **Summary of ship movements and capacity, 2005-06 to 2006-07:**

Australian ports receiving a cruise ship visit increased from 20 to 24.

The number of visiting ships increased from 28 to 35, with 9 ships being based in Australia for all or part of the year.

Cruise ship port calls (days at port) increased from 415 to 420.

The passenger capacity of visiting ships increased from 25,830 to 30,867.

Crew capacity increased from 12,031 to 14,500.

In 2006-07, passenger days at port totalled 327,760 and crew days at port were 162,113. Data for 2005-06 for these items are not comparable due to changes in the methodology.

Source: *Cruise Down Under (2007)*

#### 3.1 PASSENGER AND CREW DAYS AT PORT

Total passenger days at port for Australia were estimated by CDU-AECgroup to be 327,760, with crew days at port being 162,113 in 2006-07 (see Table 3.1). However, there are question marks over these estimates, as discussed further below. NSW is the leader among the States with 106,324 passenger and 50,894 crew days at port. Queensland is the next largest State for passenger days at port with Tasmania and Victoria less than half. The remaining States and the Northern Territory have relatively low levels of cruise activity. However, WA in particular is expected to grow rapidly in 2008 and 2009.

**TABLE 3.1: PASSENGER AND CREW DAYS AT PORT 2006-07**

<b>Region</b>	<b>Passenger days at port</b>	<b>Crew days at port</b>
NSW	106,324	50,894
Vic	42,514	20,543
Qld	100,885	49,581
SA	3,724	2,485
WA	17,301	10,481
Tas	45,827	21,336
NT	11,185	6,793
<b>Total</b>	<b>327,760</b>	<b>162,113</b>

Source: CDU-AECgroup. These estimates need to be interpreted with care, as they do not readily reconcile with (and are much lower than) Carnival Australia's passenger levels.

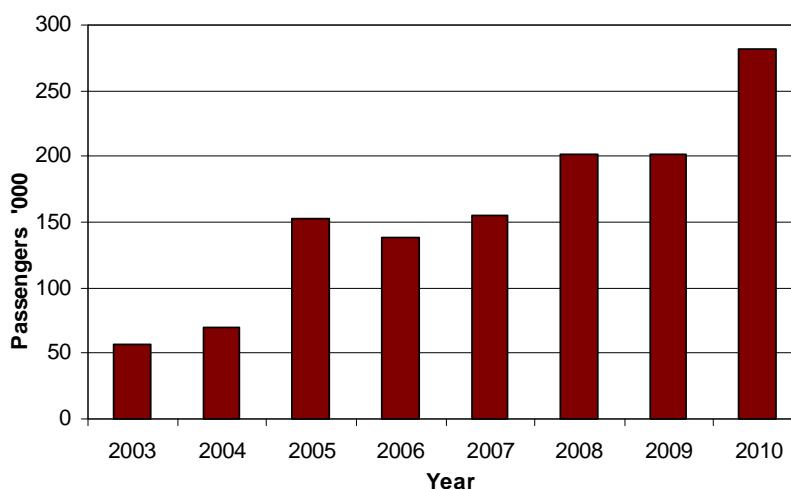
The figures included in Table 3.1 appear to be inconsistent with those of Carnival Australia, particularly for the NSW and Qld markets. Carnival Australia recorded 87,142 round trip passengers departing on cruises from Sydney – for their home-based P&O ships alone – in 2007,<sup>3</sup> which would imply 174,284 passenger days at port (2 days embarking and disembarking for each round trip passenger), compared with an estimate of 106,324 for the entire NSW industry.

A similar discrepancy in the CDU-AECgroup figures is apparent for Queensland, with Carnival Australia reporting 68,294 passengers taking round trip cruises out of Brisbane in 2007 – ie 136,588 passenger days at port – compared with the CDU-AECgroup estimate of 100,885 for the total industry.

### 3.2 AUSTRALIAN BASED ACTIVITY

Figure 3.1 shows the total passenger numbers on cruises that were based out of Australia for each calendar year since 2004, with estimates for 2008 to 2010. With the exception of a slight decline in 2006, total passenger numbers have increased each year, and by 2010 are forecast to be well over three times those of 2004.

**FIGURE 3.1: PASSENGER CRUISES ON CARNIVAL HOME-BASED SHIPS\*, AUSTRALIA 2004-2010**



Source: Carnival Australia (\* includes all Carnival Australian based ships including P&O and Princess brands, does not include transit ships such as the Cunard brand).

The figures are based on current port bookings for all cruise operators and detailed forward schedules from Carnival Australia. The general growth story – as shown in the above figure – is confirmed by the increasing activity by Australians; as discussed in the following section.

### 3.3 AUSTRALIAN PROPENSITY TO CRUISE

Data from the International Cruise Council Australasia (ICCA)<sup>4</sup> suggests cruising is becoming more popular with Australians. Cruises taken by Australian residents embarking from any

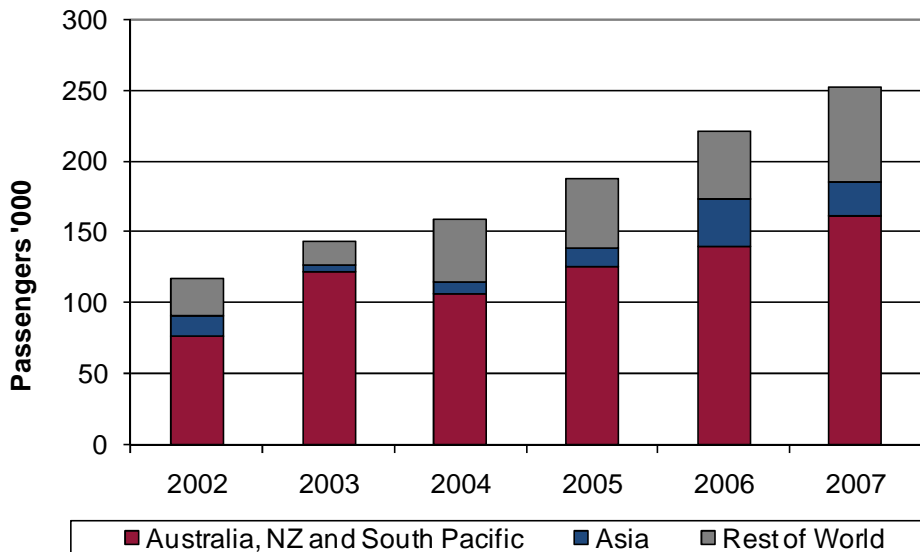
<sup>3</sup> Carnival data is for the year to Nov 2007. While Carnival use a different reporting year to the fiscal year used by CDU-AECgroup, passenger levels for Carnival have been running at a similar magnitude for several years, so the extent of the discrepancy is not explained by timing differences.

<sup>4</sup> The definition of the cruise sector used by ICCA is different from the one used by CDU-AECgroup. The ICCA figures are based on information provided by ICCA members (about 95 per cent of the industry). These members

port in the world increased from 116,300 in 2002 to just over 250,000 in 2007 (Figure 3.2), an increase of 116% over that period or a compound annual growth rate of 16.7%.

Of cruises taken by Australians embarking from Australian ports, the increase from 2002 to 2007 was 112%, or a compound annual growth rate of 16.2%. Figure 3.2 includes all travel by Australians by port of embarkation.

**FIGURE 3.2: NUMBER OF AUSTRALIAN RESIDENT PASSENGERS, BY LOCATION, 2002-2006**

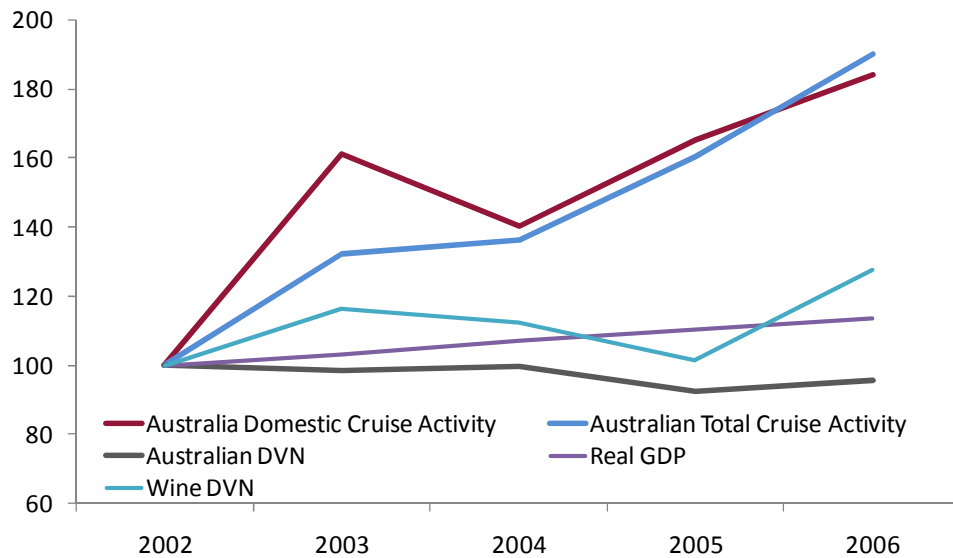


Source: *Australian Cruise Industry Statistics 2006* (ICCA 2006), *Australian Cruise Industry Report 2007*

**The cruise sector and other travel options**

To add some context to the increasing Australian propensity to cruise we can compare the performance of cruise with other tourism sectors. Australian domestic visitor nights (DVN) (based on surveys in airports) have declined over the same period – 2002 to 2006 – as that outlined in Figure 3.2, from about 298 million in 2002 to about 285 million in 2006.

include those who are out of scope of the CDU-AECgroup definition, like Northstar Cruises and Captain Cook Cruises (both operate ships that are smaller than the size threshold of 100 berths as used by CDU-AECgroup. The ICCA also includes river activity. On both (size and non-deep sea activity) ICCA suggests the size of activity is small in comparison to the remaining segments.

**FIGURE 3.3: AUSTRALIAN PROPENSITY TO CRUISE AND DOMESTIC TRAVEL, 2002 – 2006**

Source: *Australian Cruise Industry Statistics 2006* (ICCA 2006) and Tourism Forecasting Committee *Forecast 2007 Issue 2*, ABS cat. no. 5204.0, Tourism Research Australia, *Wine Snapshot 2006*

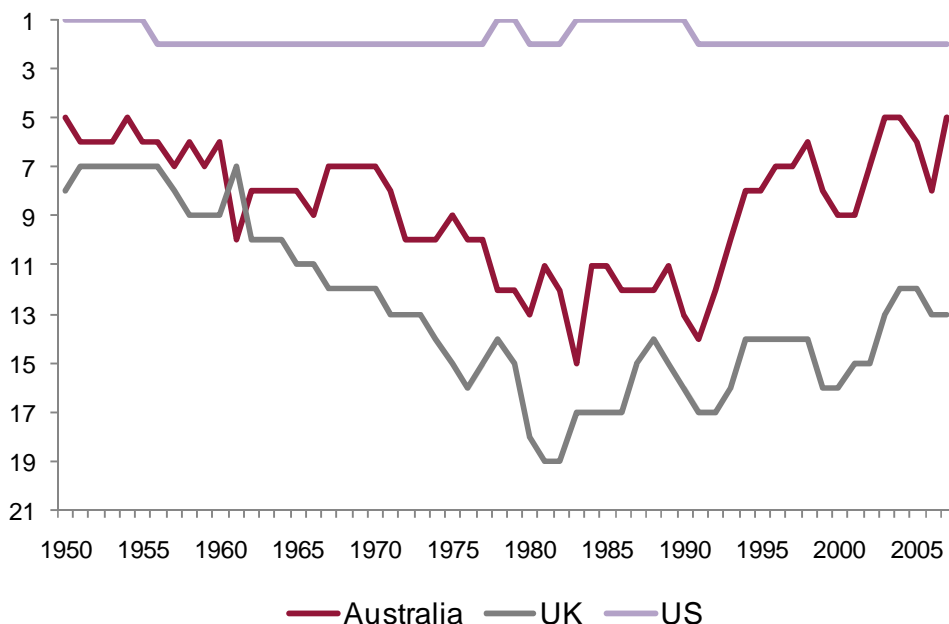
Notwithstanding the larger relative size of the domestic tourism sector the cruise sector has grown faster; Figure 3.3 demonstrates this higher growth. Australian DVN index has decreased from 100 to 95.6 over the period 2002 to 2006, over a period where real GDP has increased. Add to this the relatively slower growth in the number of domestic visitors nights on food and wine tours; over the period total visitor nights (day visitor are counted as one night) increased from 13.2 million to 16.8 million over the defined period; an increase of 27.8 per cent.

At the same time the cruise sector has almost doubled in size. Total Australian cruise activity index has increased from a base of 100 in 2002 to 190 in 2006. Australian domestic cruise activity has increase by about the same size; from 100 in 2002 to 184 in 2006.

While growing cruising remains an untapped leisure product for many Australians and appears to have considerable potential. Only 1% of the 21 million Australians took a cruise in the past twelve months compared with 3% of the 303 million Americans.

Over the past decade Australia has experienced an unprecedented period of economic prosperity. Figure 3.4 shows the living standard of Australians has increased from 15<sup>th</sup> in the early 1980s to around 5<sup>th</sup> today. Over the same period the US has remained close to the top of the OECD rankings and the UK has followed a similar track (while usually being below) to Australia. The combination of this lift in incomes and the retirement of the Baby Boomer generation over the coming decade creates a conducive climate for high-end leisure products such as cruising.

**FIGURE 3.4: AUSTRALIA’S LIVING STANDARDS: RANKING IN THE OECD**

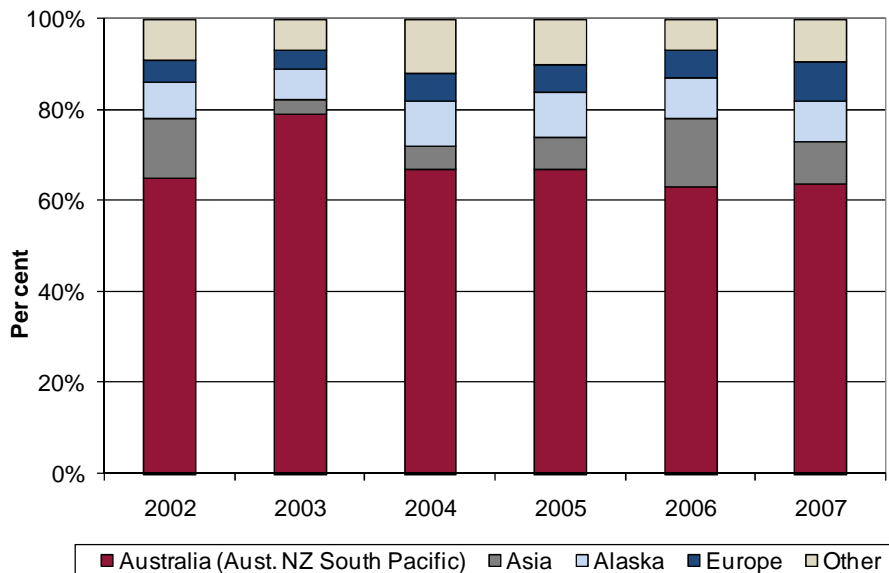


Source: Groningen Database 2007

Compared with other major cruise markets, GDP per capita (at Geary Khamis PPPs) in 2007 was US\$31,412 in the United States, US\$23,611 in the United Kingdom and US\$25,458 in Australia.

**Australian resident activity by region and length of travel**

Australian residents taking cruises do so predominantly in Australia, New Zealand and the South Pacific (Figure 3.2). In 2007 the home region accounted for 65% of all activity by Australians (Figure 3.5). Asia was the next highest region with 9.4% in 2007 down from about 15% in 2006.

**FIGURE 3.5: REGIONAL COMPOSITION OF AUSTRALIANS CRUISING**

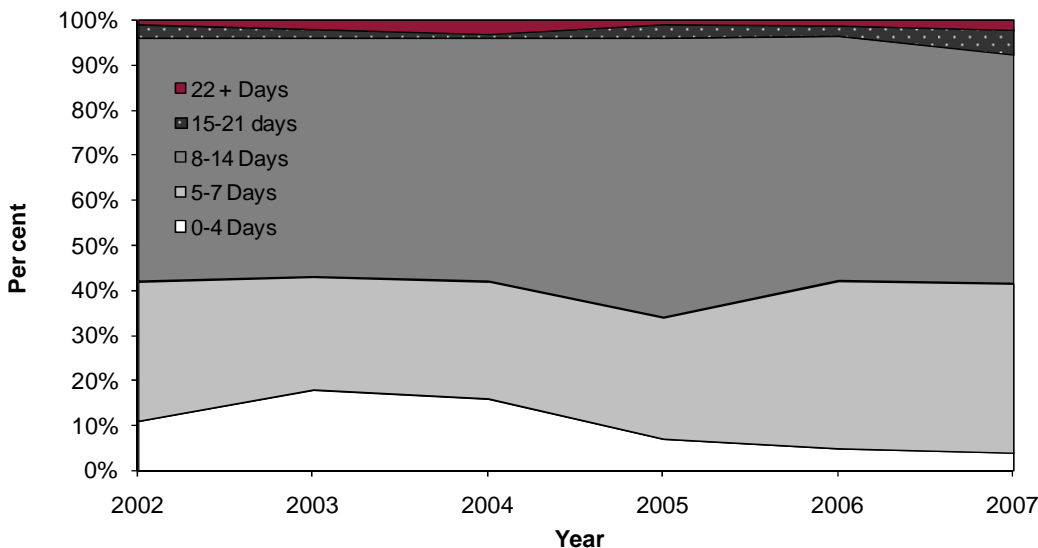
Source: *Australian Cruise Industry Statistics 2006* (ICCA 2006) , *Australian Cruise Industry Report 2007*

Some compositional change in the locations occurred in 2003, in the wake of the Bali Bombings and Severe Acute Respiratory Syndrome (SARS). Interestingly, the total level of cruising followed the trend line, with only the composition changing – the ability for cruise ships to be redeployed to avoid short-term global crises is an important strength. In the period from 2003 to 2006 Asia had grown strongly as a point of embarkation for Australian residents; in 2007 there was a drop of in Asian activity by Australians.

Cruise activity by Australians in the rest of the world (including regions of Europe and Alaska) was also affected by the large increase in home based shipping in 2003. After some rebound in the rest of the world activity by Australians in 2004, the 'Other' region has steadily declined.

In 2007, Australian travellers favoured mid-length journeys of between 5 and 14 days in length; with over 88% of cruising being in this range (Figure 3.6).

**FIGURE 3.6: AUSTRALIAN RESIDENT CRUISE ACTIVITY BY DURATION, 2002-2006**

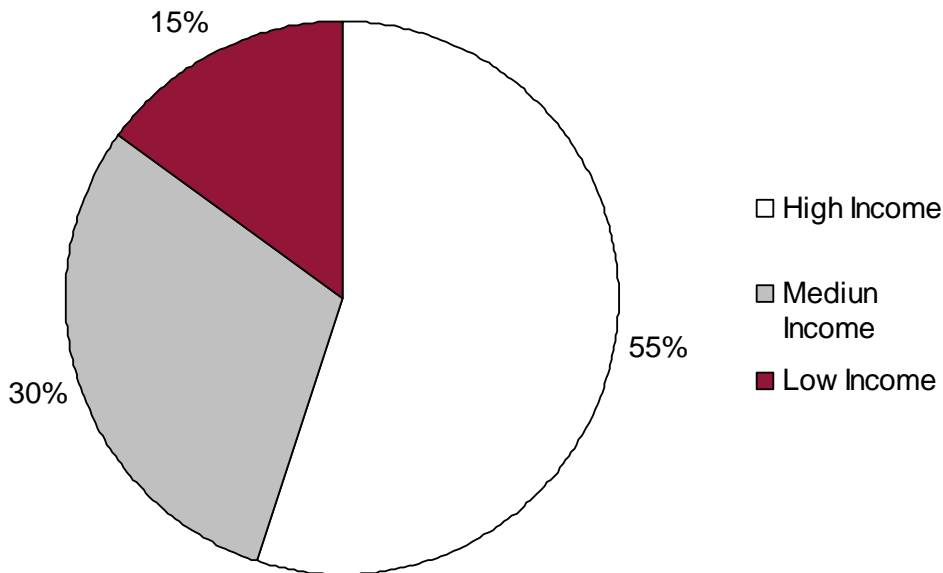


Source: Australian Cruise Industry Statistics 2006 (ICCA 2006), Australian Cruise Industry Report 2007

### 3.4 PASSENGER DEMOGRAPHICS

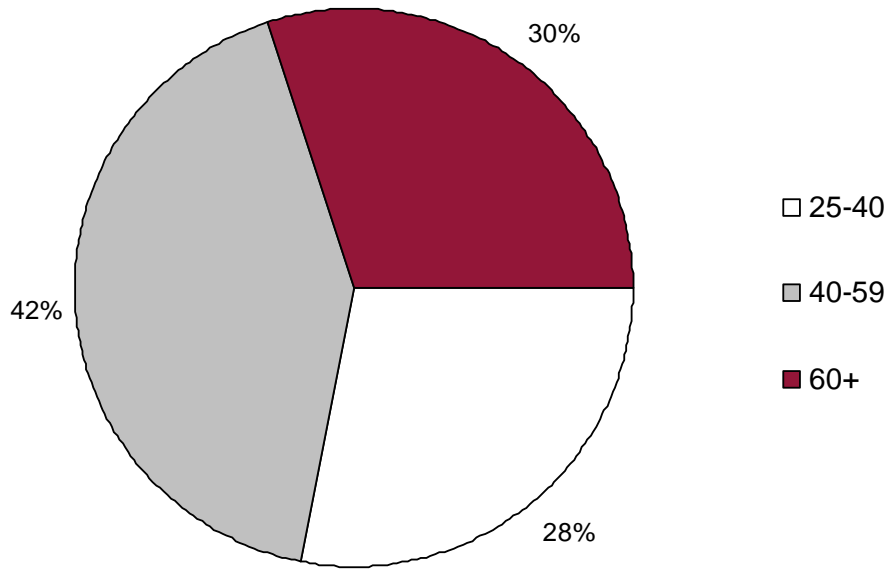
The following figure is a snapshot of passenger demographics for the North American market in 2002. 85% of passengers are high or medium income earners (see Figure 3.7); whereas Figure 3.8 shows a high proportion of cruise passengers are in the 40-59 year age bracket.

**FIGURE 3.7: PASSENGER SHARES BY INCOME LEVEL, 2002**



Source: DVB, *The Cruise Industry and its Outlook, 2004-7* as quoted in BTRE, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25, 2006*

**FIGURE 3.8: PASSENGER SHARES BY AGE, 2002**



Source: DVB, *The Cruise Industry and its Outlook, 2004-7* as quoted in BTRE, *Container and Ship Movements Through Australian Ports 2004-05 to 2024-25, 2006*

### 3.5 SHIPS

35 distinct cruise ships visited Australia or were based in Australia in 2006-07; of these, ten ships had passenger capacity of over 1000. This included P&O's Aurora, Oriana, Pacific Sun and Pacific Star and the Cunard's QE2 at 1,500. The Sapphire Princess with a passenger capacity of 2,670 and the QM2 at 3,090 were the two largest ships to visit Australia.

Table 3.2 outlines the number of ships in each market segment in operation in Australia (there was no data available on the frequency of movements in each sector). The Ships column outlines the ships based in Australia (for at least part of the year) in each segment; except for the high capacity segments where there are no Australian based ships.

**TABLE 3.2: MARKET SEGMENTS AND SHIPS IN OPERATION 2006-07**

Market Segment	Passengers	Number	Ships
Niche market	Less than 500 passengers	10	Niche market boats include the Breman, Orion, reef Endeavour and the Silver cloud.
Lower capacity	500 to 1,250 passengers	16	Lower capacity ships in Australia include the Astor, Fuchal, Pacific Princess
Medium capacity	1,250 to 2,000 passengers	7	Ships include P&O's Pacific Star and Pacific Sun
High capacity	More than 2,000 passengers	2	Princess Cruises Sapphire Princess and Cunard's QM 2.

Source: CDU-AECgroup

## 4. ECONOMIC CONTRIBUTION

The economic contribution studies are generally associated with quantifying the direct and indirect impact on economic outcomes (be it output, value added or employment) associated with a given industry or company. Such studies use input output analysis and are “historical” in nature. Economic contribution studies consider only the factual and are not used for prediction or for means of considering “the way things might be”.

Conversely economic impact studies look at the effect of a “shock” (or change in policy) on economic outcomes. Such studies are referential in nature with focus being on the difference between a “before” and “after” scenario (or “policy change” and “do nothing” scenario), see Appendix B for more information.

This report considers the economic contribution of the cruise shipping industry, using Tourism Satellite Account concepts. The CDU-AECgroup report uses a hybrid concept that measures neither “impact” or “contribution”, making it difficult to interpret the results.

Outlined below is a discussion of the output and value added. The direct effects are the first round effect by the industry purchasing goods and services from other industries. The indirect effects are the second round impacts of those supplying industries in turn purchasing goods and services from other industries in order to supply the cruise sector (and so on).

### 4.1 EXPENDITURE ASSOCIATED WITH THE CRUISE SECTOR

Direct and indirect cruise-related expenditure in Australia in the 2006-07 fiscal year totalled \$734 million. Within this total, the economic activity relating to days spent at Australian ports accounted for \$522 million, while other expenditure on offices, repairs, maintenance, travel agents, call centres, advertising and marketing is estimated to be \$212 million.<sup>5</sup>

The following sections provide an account of the contribution made by passengers, crew, port costs of operators and other activity that is not related to the turnaround of a ship (such as corporate functions, marketing, travel agents and the like).

Table 4.1 provides an account of the direct port and travel expenditure in the cruise sector by passengers, operators and crew. This is only the direct expenditure that occurs while a ship is at port.

Not surprisingly, the cruise industry contributes more to the economy than just the economic activity that surrounds a ship while it is at port. While less visible, it is still significant and includes a range of goods and services purchased by the cruise industry, such as: repairs and maintenance, marketing, printing brochures, office costs, call centres, advertising and travel agents. These are estimated in Section 4.6.

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<sup>5</sup> In this study we have recast the concept of cruise industry economic to include the full gamut of cruise industry activities (See Appendix D for more information).

**TABLE 4.1: TOTAL DIRECT PASSENGER, CREW AND OPERATOR EXPENDITURE BY STATE, 2006-07, \$M**

	Passenger	Crew	Operator	Total
NSW	50.1	8.8	58.4	117.3
Queensland	39.1	5.9	41.4	86.5
Victoria	7.8	0.8	22.9	31.4
South Australia	0.8	0.2	0.5	1.5
Western Australia	5.4	0.8	4.8	11.0
Tasmania	6.3	1.1	5.1	12.5
Northern Territory	3.5	1.0	7.6	12.1
<b>Australia</b>	<b>113.1</b>	<b>18.6</b>	<b>140.6</b>	<b>272.4</b>

Source: Access Economics estimates

## 4.2 PASSENGER EXPENDITURE

Total Australian passenger expenditure accounts for the spending by travellers during the Australian leg of their tours. The total direct passenger spending of \$113.1 million includes the expenditure of persons travelling on home based ships and ships in transit.

Total direct expenditure by passenger in Australia is estimated at \$113.1 million in 2006-07. \$50.1 million was spent in NSW; \$39.1 million in Queensland and \$7.8 million in Victoria.

Passenger spending activity is highest in NSW and Queensland due to the concentration of home-based ships in Sydney and Brisbane, respectively.

For the Carnival Australia home-based ships:

- ❑ In Sydney, 54% of passengers were from NSW and the remainder were from interstate, with a small proportion from overseas. Data was not available to split interstate from overseas, but cross referencing against the ICCA data on Australians cruising suggests around 90% of all passengers on the home-based ships are Australians.
- ❑ In Brisbane 67% of passengers on home-based ships are Queensland residents.

For interstate residents boarding ships in (say) Sydney (eg Melbourne residents taking a cruise ex-Sydney), many would add a domestic flight and a hotel night in Sydney at either end of their cruise, resulting in significantly higher expenditure than for a transiting ship.

## 4.3 OPERATOR EXPENDITURE

Operator expenditure accounts for spending related to supplying the ship with stores and supplies for the journey (primarily fuel, food and water, plus the offloading of sewerage). It also accounts for expenditure on pilotage, towage, navigation and port charges. This expenditure applies to both transit and home based ships, however, home-based ships tend to take on more stores while in port than transiting ships.

Total operator expenditure in Australia was \$140.6 million in 2006-07. \$58.4 million was spent in NSW; \$41.4 million in Queensland and \$22.9 million in Victoria.

As with the passenger expenditure, operator expenditure is highest in NSW and Queensland due to the large home-based ships in those locations.

#### 4.4 CREW EXPENDITURE

Crew expenditure accounts for the spending by crew *while onshore* in an Australia port. The national estimate for crew expenditure is \$18.6 million with again a concentration of spending in NSW and Queensland.

Total crew expenditure in Australia was \$18.6 million in 2006-07. In 2006-07 \$8.8 million was spent in NSW; \$5.9 million in Queensland and \$0.8 million in Victoria.

#### 4.5 INDIRECT AND ASSOCIATED OUTCOMES

##### Indirect expenditure

The expenditure above also results in an indirect contribution. As passengers, operators and crew spend money on a range of goods and services, the various suppliers of these goods and services in turn purchase inputs from their suppliers, and so forth. Based on the \$272 million in direct contribution it is estimated that an additional contribution of \$251 million of indirect expenditure also indirectly relates to the cruise industry, see Table 4.2.

**TABLE 4.2: INDIRECT IMPACT OF THE AUSTRALIAN CRUISE INDUSTRY 2006-07 \$M**

	Indirect expenditure
NSW	110.5
Qld	77.8
Vic	29.7
South Australia	1.2
Western Australia	10.1
Tasmania	10.3
Northern Territory	11.0
<b>Australia</b>	<b>250.7</b>

Source: Access Economics

As with the direct expenditure the indirect expenditure is concentrated in NSW and Queensland.

##### Value added

In 2006-07 total direct and indirect **value added** from the cruise industry, relating to activities surrounding a ship while at port, was \$243.8 million; with \$104.8 million in NSW and \$77.6 million in Queensland (Table 4.3).

**TABLE 4.3: VALUE ADDED, BY DIRECT AND INDIRECT AND BY STATE, 2006-07, \$M**

	Direct	Indirect	Total
NSW	55.7	49.1	104.8
Qld	42.9	34.8	77.6
Vic	14.9	13.4	28.2
South Australia	0.7	0.5	1.4
Western Australia	5.3	4.5	9.8
Tasmania	6.8	4.6	11.4
Northern Territory	5.7	5.0	10.6
<b>Australia</b>	<b>132.1</b>	<b>111.8</b>	<b>243.8</b>

Source: Access Economics estimates, relating to activities surrounding a ship while at port

### Wages and Employment (full time equivalent)

The wages and employment figures provided in Table 4.4 and Table 4.5 are the labour market outcomes based on the port expenditure of passengers, crew and operators; it *does not* include the employment of crew on ships operated in Australia.

As with the economic outcomes discussed above, wages and employment figures are concentrated in the states of NSW and Queensland. Of the 2622 persons employed based on spending in the cruise sector, nearly 2000 are employed in the NSW and Qld. These include a proportion of port workers (marine pilots, crew on tugs, etc) guiding the ship to berth; employees in passenger terminals, retail and wholesale staff and customs officials processing passengers.

**TABLE 4.4: EMPLOYMENT (FTE), BY DIRECT AND INDIRECT AND BY STATE, 2006-07**

	Direct	Indirect	Total
NSW	694	467	1161
Qld	496	330	828
Vic	167	123	291
South Australia	7	5	14
Western Australia	67	43	110
Tasmania	71	45	114
Northern Territory	61	46	105
<b>Australia</b>	<b>1563</b>	<b>1058</b>	<b>2622</b>

Source: Access Economics estimates

The indirect employment includes transport and logistical personnel delivering supplies to retail chains that in turn supply goods and services to passengers.

**TABLE 4.5: WAGES, BY DIRECT AND INDIRECT AND BY STATE, 2006-07, \$M**

	Direct	Indirect	Total
NSW	33.3	25.5	58.8
Qld	24.5	18.1	42.4
Vic	9.0	7.1	16.0
South Australia	0.4	0.2	0.7
Western Australia	3.1	2.4	5.4
Tasmania	3.6	2.5	6.1
Northern Territory	3.3	2.6	5.9
<b>Australia</b>	<b>77.2</b>	<b>58.3</b>	<b>135.4</b>

Source: Access Economics

Table 4.5 outlines the wages earned by the employees outlined in the table above; that is, the wage earnings based on the expenditure contribution as outlined above. These employment figures and earnings do not include employees working in the Carnival Australia office, travel agents and promotional industries that support the cruise sector. Discussion on the employment in these sectors is provided in the following section.

## 4.6 NON-PORT ACTIVITY

A range of other economic activity takes place in the cruise industry in order to support the (more visible) activities at the port. These include:

- Repairs and maintenance;
- Marketing, printing brochures;
- Travel agent commissions;
- Administration, office expenses and call centre costs; and,
- Media advertising.

Table 4.6 provides an account of the Australian cruise operator corporate activity. The table provides the direct expenditure by type of activity like marketing, administration and repairs.

**TABLE 4.6: CRUISE INDUSTRY NON-PORT ACTIVITY, BY EXPENDITURE TYPE, 2007\***

	Expenditure (\$M)
Direct	110.4
Marketing, advertising, agents, etc	51.6
Administration, office expenses	37.0
Repairs and Maintenance	21.9
Indirect	101.8
<b>Total</b>	<b>212.2</b>

Source: Access Economics estimate \* expenditure is based on year 1 December 2006 to 30 November 2007

Marketing is the largest component of the direct expenditure at \$51.6 million. This includes travel agent commissions, the cost of preparing and publishing brochures, television advertising and magazine promotions. Administration accounts for \$37.0 million, this includes the expense of running the Carnival Australia office, plus a factor to gross this up to an industry total, allowing for the local support staff of other companies with home-based ships. Repairs and maintenance contribute \$21.9 million to cruise industry economic activity.

Table 4.6 also provides the indirect expenditure impact: \$101.8 million of the activity outlined above. In total, support services to the cruise industry account for \$212.2 million per annum.

### **Employment**

There is also an employment effect based on the \$212.2 million of corporate and support expenditure. Direct employment figures would include employment in corporate offices, marketing and travel agencies and at ports repairing and maintaining ships; and this may include subsequent employment in indirect industries.

## 5. INFRASTRUCTURE

The port infrastructure requirements of a large, modern cruise ship are significant. As well as loading and unloading several thousand passengers and crew onto coaches, dozens of trucks require access in order to supply the ship with fuel, food, water and to off load sewerage. Land-side heavy vehicle access is an important aspect of planning a cruise terminal. The larger ships now entering the international cruise shipping fleet are too tall for the Sydney Harbour Bridge and Brisbane's Gateway Bridge. The planning challenges are considerable, and it requires a long lead time to undertake the necessary planning, feasibility and environmental studies for new port facilities.

There are already 10 to 12 port calls per annum to Sydney and Brisbane that are too tall for the bridges in those ports. The pipeline of new ships under construction indicates a trend towards larger ships.

There is relatively little infrastructure in Australia that is solely dedicated to the cruise shipping industry. Generally, cruise port and terminal infrastructure in Australia is multi-purpose – ie combined with military or cargo facilities – or is part of a mixed-use complex which also contains residential apartments, restaurants or retail outlets. Aside from the dedicated Overseas Passenger Terminal in Circular Quay, options for further facilities in eastern Sydney Harbour limited, due to naval facilities at Garden Island and residential facilities in Woolloomooloo Bay. There are residential apartments, cafes and bars near the Wharf 8 Terminal at Darling Harbour. Similarly, the recently completed \$750 million Portside Warf<sup>6</sup> in Brisbane has cruise ship facilities alongside a residential and retail development.

Multi-purpose berths – designed with cruising in mind, with facilities appropriate to handling cargo, cruise and navy ships – are a potential solution to the challenge of providing appropriate facilities for cruise shipping, while also ensuring a commercial return to infrastructure owners.

However, some activities at mixed-use facilities are potentially incompatible with the heavy-vehicle access and the large scale of cruise ships. There can be significant negative externalities while a cruise ship is in port. The restocking and refuelling procedures are a major logistics exercise to be conducting in a residential area. Additionally, traffic created by disembarking passengers, as well as locals who visit the terminal area to view the ship, create further disruption to residents. These challenges indicate the incompatibility of some activities at mixed-use facilities. A challenge for planning is to find more compatible facilities, or to ensure appropriate buffers and land side heavy vehicle access.

The lead times for planning new cruise ship infrastructure can be many years. The time need for design, environmental approvals and construction requires a significant amount of forward planning and a greater understanding by port planners of cruise ship operations.

The use of existing cruise port infrastructure is further limited by Australia's iconic bridges. Larger ships like the Queen Victoria are not able to use the port infrastructure on the western side of the Sydney Harbour Bridge because of height restrictions imposed by the Harbour Bridge. The situation is similar in Brisbane, where the Gateway Motorway prevents access to the Portside Wharf, with larger ships using the grain loading facility at the mouth of the

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<sup>6</sup> The expenditure of \$750 million is understood to be the total development, including the retail and residential components, not purely the cruise berth.

Brisbane River. While a multi purpose (grain-passenger) berth could work if designed and planned with cruise shipping in mind, in this case, cruise shipping is an afterthought.

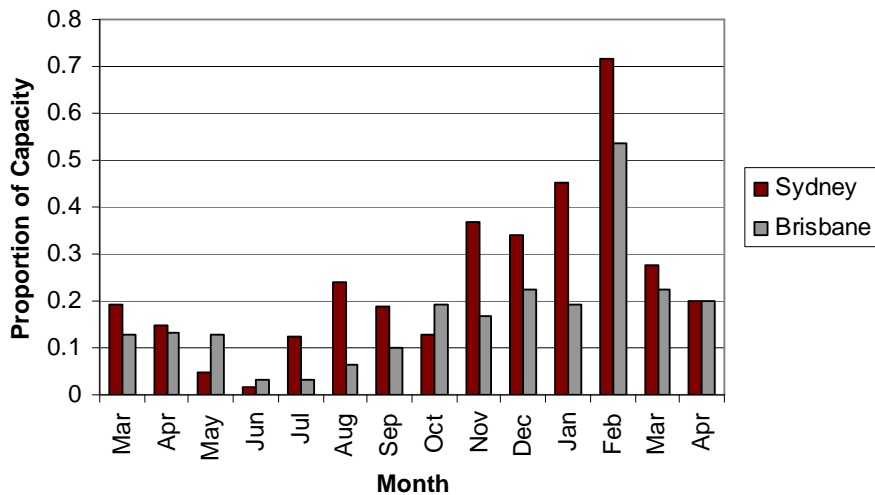
Cruise terminal bookings in Australia are presently organised with each individual port, on a ‘first in, best dressed’ basis, rather than a more sophisticated method of allocating a scarce resource. This creates an unwieldy system for cruise lines, particularly those wishing to make port bookings for a cruise to visit multiple Australian ports, which requires sequential port calls. As a consequence, the Australian cruise shipping industry may face a competitive disadvantage relative to countries with greater inter-port coordination.

Better management of bookings and increased timeliness for cruise lines would be facilitated by a national cruise terminal booking system, perhaps modelled on Airport Coordination Australia. A set of rules could be developed in consultation with industry, for example: a mechanism to give preference to ships seeking a sequence of port calls, rules relating to grandfathering, a ‘use it or lose it’ mechanism, and so forth. Implementation of a more sophisticated port booking system could reduce the red tape costs faced by the cruise shipping industry in Australia and provide a more optimal allocation of the available berths. This will become increasingly important given the expected growth in the industry and the infrastructure limitations.

An integrated booking system also has the potential to increase cruise visit rates to Australia, and to give greater certainty to cruise lines looking to invest in the launch of a new Australian schedule.

Figure 5.1 shows the occupancy rates of the berths in Sydney and Brisbane until the end of the 2008-09 cruise season, based on bookings already received, measured as the proportion of days where a ship occupies a berth, or part thereof. For Sydney ‘capacity’ is defined as two berths per day, the Overseas Passenger Terminal and Wharf 8 at Darling Harbour; for Brisbane there is one berth.

**FIGURE 5.1: BERTH OCCUPANCY RATES, MARCH 2008-APRIL 2009<sup>7</sup>**



Source: Sydney Ports and Port of Brisbane on-line scheduling facility

As is evident from Figure 5.1, there are four months between now and April 2009 where the Sydney cruise berth occupancy exceeds 30% utilisation, while Brisbane is already sufficiently booked to exceed 30% utilisation in February 2009.

<sup>7</sup> Note: July 2008 Darling Harbour Wharf 8 in Sydney is unavailable due to World Youth Day, halving the monthly capacity for that month only.

The point at which the berth occupancy rate starts to generate excessive delays and operational inefficiencies is a complex question. While cruise ships operate on fixed-day sailings with scheduled port calls, bad weather and other operational factors can cause a ship to require a berth on a day other than the day it had booked. With only a single berth in Brisbane, there is little flexibility to accommodate unexpected delays, even at seemingly low berth occupancy rates. The berth occupancy rate of over 70% at the two berths in Sydney, based on cruises already booked now for February 2009, is a cause for concern and further investigation. That is, a 70% berth occupancy rate in a two-berth port means it is essentially 'full', given the need to reserve some capacity for bad weather and operational variances.

## 6. STATE CONTRIBUTIONS AND DISCUSSION

CDU-AECgroup publishes the economic contribution of the cruise industry for each State and the Northern Territory. The report notes that the state impacts are calculated on a different base: expenditure by Australians *is* counted for the purposes of State contributions, but is omitted from the Australian total. CDU-AECgroup contend that counting the Australian consumption at the Australian level will involve calculating transfers. However, under the Tourism Satellite Account approach, expenditure by a domestic tourist from (say) Perth visiting Sydney is indeed as part of the economic contribution of the tourism industry.

The only credible way of measuring economic *impacts* (as opposed to economic *contributions*) is through using a General Equilibrium model. As such, the CDU-AECgroup report does not measure *impact* or *contribution*; rather, it measures a hybrid concept somewhere between the two, which makes it difficult to interpret.

The State impacts in this section are only the economic contribution from the activity surrounding the ship while in port, excluding the contribution from support/office/marketing/maintenance activities. The impacts have been recast to allow for the methodological reasons outlined in Appendix D.

### 6.1 NEW SOUTH WALES

Total cruise expenditure in NSW is estimated at \$227.8 million, with value added estimated at \$104.8 million. Land-based employees are estimated to have earned \$58.8 million; with an estimated 1161 full time equivalents (FTEs).

The NSW economic contribution is overwhelmingly concentrated in Sydney.

Sydney overwhelmingly dominates the cruise market in NSW. Sydney entertained 26 ships in 2006-07 – up from 22 in 2005-06 – with the mix changing to include a number of larger ships.

The number of cruise ship days at port in NSW in 2006-07 was 97, down from 105 in the previous year; with 89 days at port for Sydney.

#### 6.1.1 INFRASTRUCTURE IN NSW

The New South Wales market is primarily serviced by Sydney. The harbour is world famous and acts as a beacon attracting visitors from all over the world.

There are some constraints on the cruise activity in the harbour. The larger cruise ships are unable to use the western side of the harbour because of the height restriction imposed by the Sydney Harbour Bridge; as ships get larger the impact of the restriction will increase. Subsequently the use of established berths in Darling Harbour and possible development opportunities – such as White Bay – may be limited.

White Bay is subject to a development proposal to establish a marine supply facility at Berth 6. The facility may include services such as marine refuelling, grey water, sullage pumps and a supplies servicing point.

The Berth 6 proposal and the possible development of White Bay provides an option for a more appropriate cruise ship facility for small to medium cruise ships, although this does not resolve the issue of the Harbour Bridge height restriction and the difficulties in land-side heavy vehicle access at the Overseas Passenger Terminal.

Berths with improved land-side access, that can to accommodate the larger ships on the eastern side of the bridge, need to be investigated. Potential locations include Circular Quay and Woolloomooloo. There are difficulties with any development east of the Harbour Bridge, however, as there is very little free space along the shoreline for such a facility.

## 6.2 QUEENSLAND

Total expenditure for Queensland is estimated at \$164.3 million, with value added estimated at \$77.6 million. Land-based employees are estimated to have earned \$42.4 million; with an estimated 828 full time equivalents (FTEs).

The Queensland economic contribution is concentrated in Brisbane, with about 81% of expenditure going through this port. Cairns is a busier port in terms of ship visits, with about half the State's ship days at port, with Brisbane hosting around 30%. However, Brisbane attracts larger ships and subsequently attracts about 60% of the State's passenger days at port.

### 6.2.1 INFRASTRUCTURE IN QUEENSLAND

Like Sydney, Queensland has attractions that are a natural fit for the cruise industry. The Great Barrier Reef and the World Heritage areas of Queensland offer established tourist attractions for the cruise industry. The state has ports in Brisbane, Bundaberg, Cairns, Mackay and Townsville. Some of these ports – namely Brisbane and Townsville – are mixed use facilities.

The Brisbane facility *Portside Wharf* includes a restaurant and shopping precinct, cinemas and approximately 170 residential apartments. The \$750 million Multiplex development plays host to a diverse – and broad – set of interests. These interests may give rise to conflicts with the use of the facility as a cruise terminal.

An additional infrastructure problem in Brisbane arises as the Portside Wharf is located west of the Gateway Bridge, the height of which prohibits passage by the larger cruise ships. Although this only affects a small number of ships at this stage, as more large ships enter the international fleet it will become an increasing problem.

The Gold Coast is an alternative location for a cruise terminal for SE Qld. A proposal to develop a cruise terminal at The Spit at Southport did not proceed on environmental grounds. The Environmental Impact Study into this terminal also found that such a development was unlikely to be economically viable, on the grounds that its proximity to Brisbane would mean a result of splitting the existing market, rather than the creation of a new one.

## 6.3 VICTORIA

Total expenditure for Victoria is estimated at \$61.1 million, with value added estimated at \$28.2 million. Land-based employees are estimated to have earned \$16.0 million; with an estimated 291 full time equivalents (FTEs).

In 2006-07, cruise shipping activity in Victoria was limited to Melbourne. A total of 30 cruise ships visited Melbourne, with more than 68,000 visitors between September 2006 and April 2007.<sup>8</sup> Cruise ship days at port for 2006-07 totalled 32, a slight decline on the 36 days recorded for 2005-06. The port has also set ambitious targets for cruise ship visits to Melbourne for the next three seasons, with the 2007-08 schedule of cruise ship arrivals indicating the 2007-08 target of 45 visits is close to being met.

The peak of the 2006-07 cruise season came in Melbourne Cup week, with 4 ships bringing 6000 visitors, nearly 10% of the total visitors to Melbourne on cruise ships for the year.

### 6.3.1 INFRASTRUCTURE IN VICTORIA

Every cruise ship that visited Victoria in 2006-07 docked at the Station Pier in the Port of Melbourne. The Pier has undergone substantial improvement work in the past decade, including \$18 million in the four years to 2002,<sup>9</sup> and significant work completed by the Port of Melbourne Corporation since it took over management of the Pier in February 2005. The work since the takeover means all four berths on the Station Pier are now able to operate independently of one another.

Station Pier is still the preferred base for navy ships visiting Melbourne, and is also the base for the *Spirit of Tasmania* ship, which completes daily crossings of Bass Strait and permanently occupies one of the berths. The two largest berths are permanently available for cruise ships, and the Pier is open for shipping 24 hours a day.

Work has recently commenced on the Channel Deepening Project in Port Phillip Bay, and is scheduled to be completed by 31 December 2009. Although this will provide no direct benefits concerning accessibility of the Port to cruise ships, it may have indirect impacts on the cruise shipping industry, as larger cargo ships will be able to move through the Bay and dock in Melbourne. The economies of scale this entails for container ships may lead to reduced shipping channel traffic, with associated potential benefits of less interruptions and improved ease of access for cruise ships in the Bay.

## 6.4 SOUTH AUSTRALIA

With the exception of the land-locked ACT, cruise tourism contributes less to the South Australian economy than that of any Australian State or Territory. Much of this can be attributed to geographical disadvantage, as South Australia does not readily connect to the popular cruise routes in the Pacific Ocean or Indian Ocean.

Total expenditure for South Australia is estimated at \$2.7 million, with value added estimated at \$1.4 million. Land-based employees are estimated to have earned \$0.7 million; with an estimated 14 full time equivalents (FTEs).

The South Australian economic contribution is overwhelmingly concentrated in Adelaide. Of the output outlined above only a fraction is spent in the Kangaroo Island port located at Kingscote.

<sup>8</sup> Port of Melbourne Corporation Annual Report, p.8

<sup>9</sup> Victorian Cruise Ship Strategy 2002, p.22

Only two ports in South Australia received cruise ship visits in 2006-07. These were Adelaide with 6 visits and Kingscote with 2 visits. These figures represent a significant fall on 2005-06 results, when 13 visits were recorded in Adelaide.

## 6.5 WESTERN AUSTRALIA

Total expenditure for Western Australia is estimated at \$21.2 million, with value added estimated at \$9.8 million. Land based employees are estimated to have earned \$5.4 million; with an estimated 110 full time equivalents (FTEs).

The Western Australian economic contribution is concentrated in Fremantle. The next largest port of expenditure is Broome in the north of the State.

Western Australia received cruise visits at several ports in 2006-07:

- Port of Fremantle, servicing Perth;
- Exmouth;
- Geraldton;
- Broome;
- Bunbury; and
- Albany.

46 cruise ship visit days were recorded for WA in 2006-07, up from 42 the previous year. The vast majority of these days were accounted for by Fremantle and Broome, with 16 apiece. Broome recorded by far the best improvement of the WA ports in 2006-07, attracting 16 port visit days, almost three times the number received in 2005-06.

Albany Port had 4 cruise ship visit days in 2006-07. Although this is a decline on 2005-06 results, as of August 2007 there were 10 bookings for visits in 2007-08 (Albany Port Annual Report 2006-07, p.4), indicating strong future growth.

Geraldton Port recorded growth in cruise ship visits in 2006-07, to 3 cruise visit days after no cruise ships visited the port in 2005-06 (CDU-AECgroup, 2005-06, p.iii).

Bunbury Port is able to accept cruise ships at its Number 1 Berth, however there is a limit of 9.1m on the depth of the craft, meaning only smaller cruise ships are able to visit. Bunbury recorded 3 cruise visit days in 2006-07, an improvement on the 1 day in 2005-06 figures.

Exmouth Marina recorded 3 fewer cruise ship visit days from 2005-06, with 4 cruise ship visit days in 2006-07. There have been ongoing redevelopment and construction works in the Exmouth Marina area, which may have attributed to this decline. These works were scheduled for completion in mid 2008.

### 6.5.1 INFRASTRUCTURE IN WESTERN AUSTRALIA

The Fremantle Passenger Terminal at Victoria Quay, located only a short distance from the Perth CBD, has two berths for cruise ships. It provides a vast array of services to both the ships and passengers on arrival, and is conveniently located close to the departure point for many of the day trips to locations such as Rottnest Island. The Terminal was built for passenger ships, and the *Fremantle Waterfront Masterplan 2000* provides plans to develop the Victoria Quay to provide more tourist attractions and develop accessibility to the area,

without proposing residential development and the associated potential problems (*Fremantle Waterfront Masterplan 2000*, p.8).

Recent estimates using current trade levels suggest that the existing Fremantle port will reach its existing capacity in 2017 (Fremantle Port Authority 2000, p.8). Consequently, preparatory work has commenced on the development of an Outer Harbour at Kwinana Quay that will provide container facilities and reduce pressure on Fremantle.

The outer berth at Broome is long enough for all but the largest ships such as the QM2, and there is provision for multiple, smaller ships to berth simultaneously. Broome also has a natural geographic advantage for cruise shipping, as it is relatively close to foreign ports, making international cruises possible.

There are two berths available at Albany Port for cruise ships, and both can be used simultaneously.

## 6.6 TASMANIA

Being an island, with a long history of shipping, Tasmania has a wealth of infrastructure and several ideal locations for accommodating cruise ships. In 2006-07 Tasmania recorded 44 cruise ship days, up from 36 in 2005-06. Slightly fewer than half of these were recorded in Hobart, while a further 14 were in Burnie, in the state's north-west. Visits were also recorded in Devonport, Launceston and Port Arthur.

Total expenditure for Tasmania is estimated at \$22.8 million, with the value added estimated at \$11.4 million. Land-based employees are estimated to have earned \$6.1 million; with an estimated 114 full time equivalents (FTEs).

The Tasmanian economic contribution is concentrated in Hobart and Burnie. Cruise impacts are the most regionally diverse of any State in Australia, with about 50% of expenditure occurring outside the State capital.

### 6.6.1 INFRASTRUCTURE IN TASMANIA

Most of the Tasmanians ports are large enough and deep enough to accommodate most cruise ships. Hobart in particular is able to accommodate the largest cruise ships, while both Hobart and Burnie ports have multiple berths available for cruise ships. These factors, combined with the natural geographical advantages Tasmania has for cruises, mean that Tasmania has the capacity to further develop its cruise tourism sector.

## 6.7 NORTHERN TERRITORY

Cruise ship visits to the Northern Territory are limited somewhat by climactic factors, owing to the lengthy wet season (January-April). Notwithstanding this limitation, the Northern Territory cruise shipping industry had a strong year in 2006-07, with the ship Orion home-porting out of Darwin to conduct cruises across Northern Australia and Eastern Indonesia.<sup>10</sup>

<sup>10</sup> Darwin Port Corporation 2007 Annual Report, p.23

Total expenditure for the Northern Territory is estimated at \$23.1 million, with value added estimated at \$10.6 million. Land-based employees are estimated to have earned \$5.9 million; with an estimated 105 full time equivalents (FTEs).

### 6.7.1 INFRASTRUCTURE IN THE NORTHERN TERRITORY

The relative proximity of Asian cruise destinations to Darwin is an asset to the cruise shipping industry in the Northern Territory. That said, the relatively limited existing cruise infrastructure at Fort Hill Wharf presently prevents the full utilisation of this advantage. The construction of a multi purpose passenger terminal at Fort Hill Wharf has been highlighted as a strategic goal to develop the cruise shipping industry in the Northern Territory.

To this end, the NT Government has made a commitment to the development of a \$4.5 million cruise ship facility that is due for completion in 2008. The development of the Cruise Ship Terminal is part of a large-scale redevelopment of the Darwin Waterfront, which also involves the construction of the Darwin Convention Centre and a restaurant and shopping precinct aimed at attracting tourists.

## 7. CONCLUSIONS

The current statistical collections on the Australian cruise industry are generally poor. Decision making for the cruise industry (such as government decisions on infrastructure) has to rely on a patchwork of information and partial data sources.

Some information is compiled by the industry, such as the work outlined above by CDU-AECgroup. The work by CDU-AECgroup was driven by the findings in *Revised Action Plan for the Development of the Australian-Pacific Cruise Industry 2006* (the RAP). The RAP provides an account of the possible sources of information, they include:

- ❑ *Tourism Research Australia (TRA)* does not provide official statistics on the cruise sector in Australia. The national and international visitor surveys are only conducted in airport departure lounges.
- ❑ *The ABS* has two publications that may be relevant, however both are found wanting. The first is the Tourism Satellite Account (TSA), which provides a statistical framework, but does not account for the contribution of the cruise sector. The ABS also publishes statistics on overseas arrivals and departures (from Immigration Passenger Cards) but again the statistics are not well suited to the industry (see DIC below);
- ❑ *The Department of Immigration and Citizenship (DIC)* provides administrative data to the ABS to compile the overseas arrivals and departure statistics. Under special arrangements with major operators, approved Australian round trip travellers are allowed to depart and arrive in Australian waters without filling in a Passenger Card; and are thus excluded from the ABS statistics on overseas arrivals and departures.
- ❑ *The Bureau of Infrastructure, Transport and Regional Economics* publishes some statistics on passenger ship movements; but ships included are not well aligned to the preferred industry definition. The focus of much of the BITRE data is on freight.

The RAP called on the Australian Government to establish a cruise shipping data working group. The RAP proposed that the group be chaired by the (then) Department of Industry Tourism and Resources and to involve the cruise sector. The role of the group was to facilitate collection of data. The report called for a response within 3 months (the March 2006 report suggested a working group to be established by June 2006). Progress has been slow.

### Economic contribution

The RAP also called upon CDU to conduct an economic impact study for the years 2005-06 to 2007-08 for the sector; something it is on its way to achieving. The CDU-AECgroup economic impact studies have been prone to methodological changes (so movements in figures between years do not indicate growth or contraction in the sector) and some definitions used do not fit well with other definitions of tourism activity.

Overall, the CDU-AECgroup report has made some important steps towards a better understanding of the sector, though lacks a clear economic framework, and makes a number of arbitrary adjustments to arrive at the total impact estimate.

For instance the nationwide figures for cruise sector contribution do not include activity by Australian residents; where as the state based figures do include all activity (including Australian residents). The CDU-AECgroup report covers only the economic activity surrounding the ship while at port and none of the supporting economic activity.

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## APPENDIX A: ABS DEFINITION OF TOURISM

The definition of tourism used in the Tourism Satellite Accounts (TSA) provides a suitable framework for conceptualising the economic contribution of the cruise industry and the appropriate “envelope” of cruise-related expenditure in the Australian economy.

The ABS publishes the Tourism Satellite Accounts (TSA) as an addendum to the national accounts. The ABS notes that estimating activity in the tourism industry provides challenges for the ABS, in terms of classification.

The usual method of defining an industry is the Australian and New Zealand Standard Industry Classification (ANZSIC). This groups firms together based on the goods and services produced – that is, firms producing similar goods or services are grouped together into an industry (such as retail, mining, transport or construction). The tourism industry is different, where activity is based on the status of the consumer. The ABS notes:

It is the characteristics of the consumer that determine whether the production is included within the scope of tourism.

For example, the expenditure of a person having a meal at their local restaurant is not part of the tourism industry, but the expenditure of a tourist sitting at the next table in that restaurant is part of the tourism industry. To determine the characteristics of the consumer the ABS uses international definitions and a “usual environment” test.

The term ‘tourism’ in the international standards is not restricted to leisure activity. It also includes travel for business or other reasons, such as education, provided the destination is outside the person’s usual environment.

The ABS goes on to say that the concepts of travel and tourism are distinct. Travel is a broader concept that includes commuting to work and migration. Whereas tourism is travel outside the persons ‘usual environment’ or outside the visitors ‘centre of economic and social interest’.

### Issues for further consideration

There remains the issue of the inclusion of cruise sector activity within activity in the tourism industry. That is, what if someone goes on a cruise and then takes a side trip for a week after that? An appropriate means of determining the allocation of tourism output specifically to the cruise shipping industry is a ‘but for’ test:

The ‘BUT FOR’ test asks the question: but for the cruise taken by the individual, would the expenditure have taken place?

In the case of a cruise shipping ‘but for’ test, we are essentially asking whether an individual (or operator) spending money on goods and services in a particular port is spending that money in that particular port because of the cruise, or whether they would have spent that money in that location regardless of the cruise. As such, for a cruise passenger disembarking and staying in the destination for additional week, only one night is typically attributed to the cruise.

A further complexity arises due to the international nature of cruising. The expenditures on the ship (ie the fare itself, plus on-board spending) are not normally considered part of the contribution of the cruise industry to Australia.

However, the expenditures by the cruise line in Australia on offices, marketing, advertising, repairs and maintenance are part of the cruise-related economic contribution. These activities are embedded in the passenger's fare, so while most of the fare is excluded, some portion of the fare does lead to expenditure in the Australian economy. These are measured directly using data from Carnival Australia on their marketing, office and other costs – then extrapolating this to reflect the total industry – rather than estimating it indirectly using data on fares.

## APPENDIX B: IMPACT VERSUS CONTRIBUTION

### B.1 ECONOMIC CONTRIBUTION STUDIES

‘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.

Value added (output after deducting the value of inputs) is the most appropriate measure of an industry’s economic contribution to gross state product (GSP) at the state level and gross domestic product (GDP) at the national level.

The value added of each industry in the value chain can be determined without the risk of double counting across industries. Value added of an industry can be calculated directly by summing the returns to the primary factors of production, labour and capital (the gross operating surplus, ‘GOS’, or profit), as well as production taxes less subsidies.

Measures such as total revenue or total exports double count — that is, overstate the contribution of an industry to economic activity — as they include the value added of other industries. For example the total expenditure in port by cruise passengers and operators include the value added of external firms supplying inputs to the cruise passengers, such as fuel and food.

While describing the geographic origin of production inputs may be a guide to a firm’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 significant unused capacity in the economy (such as unemployed labour) there is only a weak 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. Indeed, the use of labour and capital in production is a cost to the economy. In simple terms, economic resources (land, labour, capital) are not for exclusive use by the cruise shipping industry (or any other business or industry). That is, activity related to the provision of cruise tourism services comes at an opportunity cost as it may reduce the amount of resources available to spend on other (possibly more worthwhile) activities.

This is not to say that the economic contribution of the cruise shipping industry is not important. As stated by the Productivity Commission (PC) in the context of Australia’s gambling industries:<sup>11</sup>

*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.*

<sup>11</sup> Productivity Commission 1999, *Australia’s Gambling Industries*, Report No. 10, AusInfo, Canberra, (page 4.19).

Thus, 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 disappeared?' should be drawn from them.

## **B.2 ECONOMIC IMPACT STUDIES**

In contrast, the ultimate aim of economic impact studies (such as GE modelling) is to gauge the net benefit of an economic stimulus or contraction – whether living standards will increase and by how much, not how much expenditure is incurred.

Static analysis like contribution studies, while useful to gauge the size of firms or industries in the economy and to provide a statistical snapshot to better inform decision making, are a poor guide to living standards – they do not take into account dynamic displacement or 'crowding out' effects on other sectors of the economy, such as increases in wages.

## APPENDIX C: CDU-AECGROUP REPORT

Limited data availability and the lack of standardised definitions and concepts on the cruise industry hamper the assessment of the economic contribution of the sector. As has been mentioned in this report the lack of official statistics from the ABS, TRA and BITRE does not provide an ideal setting for economic analysis or government decision making. Given the considerable challenges in measuring the cruise industry, the CDU-AECgroup report has made some significant inroads into understanding the cruising industry, compared with the data available a few years ago. The CDU and AECgroup were also very helpful in responding to our requests for clarification and additional information during the preparation of this report.

That noted, there are several areas where Access Economics has drawn different conclusions regarding the economic boundary and measurement of the cruise industry. There are also numerous areas where the measurement of cruise-related economic contribution could be improved.

The CDU-AECgroup report uses a hybrid concept that starts with a concept of economic *contribution* from activity surrounding ships while at port, then nets off domestic spending in an attempt to reflect the economic *impact*. It is true that, at the margin, an additional Australian taking a cruise will most likely just displace expenditure they may have undertaken elsewhere (for example, a person may have taken a cruise from Sydney to Brisbane rather than a flight from Sydney to Brisbane, either way, a similar amount is spent). However, the tool for *impact* assessments is a GE model. In estimating the economic contribution of the cruise industry, in this example, taking a cruise rather than a flight results in greater expenditure on the cruise industry and less expenditure on the airline industry, though quite possibly little change in overall economic activity or living standards.

Access Economics estimates the direct and indirect cruise-related expenditure (surrounding the ship while at port) was \$522 million rather than the \$376 million in the CDU-AECgroup report.

Access Economics made the following adjustments to the CDU-AECgroup estimates to arrive at the economic contribution of the cruise industry:

- ❑ Did not remove spending by Australians from the national total – just as domestic tourism is part of the tourism industry contribution, Australians cruising is part of the cruise industry contribution.
- ❑ Estimated that closer to 90% of passengers on home based ships are Australians (rather than the 50% assumed by CDU-AECgroup); and
- ❑ Adjusted the CDU-AECgroup estimates for expenditures on fuel & supplies and port fees & charges, based on data from Carnival Australia that showed these expenditures by the cruise industry (extrapolating to an industry total based on Carnival's share of the market) to be higher than estimated in the CDU-AECgroup report.

Some other specific issues with the CDU-AECgroup report include:

- ❑ A general difficulty in following (from the tables provided in that report) how the different spend rates and proportions of different types of passengers were combined and aggregated to arrive at the totals;

- ❑ The comparison of 2005-06 results for passenger days at port (based on full occupancy) with the 2006-07 results (based on actual occupancy), resulting in apparently spurious decreases in demand;
- ❑ Some of the tables (Table 3.3 to 3.12) appear to have the expenditure figures transposed, with pre-paid expenditure appearing in the spent column and vice versa;
- ❑ High operator expenditure in Townsville and Melbourne requires further explanation;
- ❑ In Table 3.15 the base and transit passenger figures for Sydney appear to be transposed; and,
- ❑ Carnival Australia data and the CDU-AECgroup results do not reconcile. In Sydney, Carnival Australia reports 87,142 round trip passengers in 2007 for its home-based ships alone (ie 174,284 passenger days at port), whereas CDU reports 104,394 passenger days in 2006-07 in Sydney and 106,342 for NSW as a whole.

## APPENDIX D: METHODOLOGY FOR RECASTING THE CDU-AECGROUP ESTIMATES

This appendix details the adjustments made to the estimates in the CDU-AECgroup study to arrive at the estimates in this report. The adjustments were made to better reflect the tourism economic contribution concepts in the Tourism Satellite Account produced by the Australian Bureau of Statistics and the cruise-related economic contribution to Australia.

This report clarifies the measurement of the economic contribution of the industry. The adjustments made are:

- ❑ Account for the expenditure of Australians in the headline national figure;
  - CDU-AECgroup netted out domestic tourist activity in the national figures, these were included for the purposes of this report;
- ❑ Adjust the assumed residential status of cruise passengers;
  - CDU-AECgroup assumes 50% of passengers on home based ships are international tourists. The evidence suggests this is too high and was set at 10%. Given the expenditure differential between international and domestic travellers an adjustment was needed.
- ❑ Adjustment for port costs;
  - Data from Carnival Australia showed higher expenditure than was accounted for by CDU-AECgroup. Expenditure was recast to take account of this;
- ❑ Adjustment for stores and wholesale goods (adjustment was made on similar grounds to port costs); and,
- ❑ Adjustment for embarking and disembarking activity on “ships in transit”;
  - The CDU-AECgroup report does not account for persons embarking or disembarking on ships that are in transit. Given the higher expenditure figures for these passengers (as many embarking and disembarking passengers may also purchase a hotel room night or airline flight in the city of embarkation or disembarkation) the estimates were recast to adjust for this higher expenditure.

Adjustments were also made to account for the economic activity that supports the cruise industry. This included adjusting for;

- ❑ Marketing, advertising, printing brochures;
- ❑ Administration, call centres, office costs; and,
- ❑ Repairs and maintenance.

As noted on the previous page, a further adjustment may be appropriate, as the CDU-AECgroup data on passenger days at port do not reconcile with the Carnival Australia data. However, an adjustment has not been undertaken, as it would require a detailed breakdown of the CDU-AECgroup data by cruise line to establish if there is indeed a data discrepancy.

## APPENDIX E: FEATURES OF A WORLD CLASS CRUISE TERMINAL

The following 10 points summarise the features of a world class cruise terminal, from the perspective of cruise operators (*Source: Carnival Australia*), a perspective that is not always well understood in the wider port, infrastructure and shipping sectors. Better decision making could result from balancing this perspective with the perspectives of governments, port operators, infrastructure owners, cargo shipping operators and the like.

### 1. Competitive port and terminal fees

The most successful international ports attract cruising companies by offering competitive fees that are independently benchmarked against similar ports in other parts of the world.

### 2. Care of passengers

The primary goal of passengers is a quick, hassle-free process through the cruise terminal; avoiding crowded check-in areas, long check-in queues, slow security screening and unfamiliar boarding processes. Passenger satisfaction depends to a large extent on how quickly they can get their boarding passes, how simple it is to check in baggage and how much control they have over the process. Passengers first and last experience of a cruising holiday can be influenced by the available facilities, comfort and ambience of the cruise terminal.

### 3. Dedicated luggage collection zone

A spacious area for passengers to easily pick-up their luggage, in compliance with government border security requirements, is important to the smooth running of a facility. This area needs to be separate from passengers queuing to embark the ship. A dedicated baggage zone of about 2000 square metres allows bags to be colour-coded and picked-up as passengers progressively disembark. This process can take up to three hours.

### 4. Dedicated passenger check-in zone

Space is also the key to an efficient check-in zone. An area of about 2000 square meters, in compliance with government border security requirements, allows up to 3000 passengers to queue without feeling crowded and allow for a two-way terminal; processing embarking passengers whilst disembarkation is underway

### 5. Easy loading of stores

About 150 tonnes (or the equivalent of 6 shipping container loads) of food and beverage stores, plus fuel, fresh water to supplement onboard evaporator plants and technical supplies are loaded each time a ship turns around. An area of about 1000 square metres, in compliance with government border security requirements, provides enough space for this process to happen as quickly and efficiently as possible.

The ships are generally only at a terminal for between eight to 10 hours, which means stores are being moved at the same time as passengers are embarking/disembarking.

**6. Separate air-bridge gangways leaving wharf**

It is necessary to have two air-bridge gangways to ensure a safe continuous passenger/crew movement and a degree of redundancy within the operation.

**7. Allows vehicle flow and management**

Traffic management is important at a cruise facility. The world's most efficient facilities have separate zones for different sorts of vehicles – stores vehicles, taxis, coaches, mini vans and passenger drop-offs and pick-ups.

**8. Equipment storage on site**

It is necessary to store equipment on-site to be used for passenger logistics movements. An efficient port provides adequate access for vehicles and cranes on the quayside next to the vessel.

**9. Access for services**

About 100 tones of fresh water is loaded onto a ship such as the Pacific Dawn each hour. In addition, we are also landing up to 60m<sup>3</sup> of treated and sorted rubbish and 15m<sup>3</sup> of waste oil from the vessels. World class cruising facilities ensure there is easy access for these important services.

**10. Long and short term parking facilities**

Successful ports overseas offer passengers the ability to park their vehicles in secure parking facilities. In Southampton in the UK, about 1,000 vehicles are parked in long-term facilities each week, which is proving to be a significant revenue raiser for ports authorities. This is no different to services offered at Australian airports.