



## **Tourism Related Welfare Impacts of the Confidential Counterfactual**

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## 1 Introduction

- 1 The Confidential Counterfactual (CC) is concerned with the medium-term outlook for Air New Zealand in an uncertain environment in which the Alliance has been blocked by competition authorities. The airline industry has been very volatile in recent years, with passenger numbers being impacted significantly by exogenous shocks such as wars, financial crises and, most recently, contagious diseases. The variability in visitor arrivals to New Zealand has grown considerably in recent years, with strong surges in growth at least partially offset by downturns attributable to major world events.
- 2 Looking forward to a world without the proposed alliance, the financial performance of Air New Zealand is expected to continue to be materially affected by such events, and also by changes in airline costs and competition. This comes against the backdrop of a prolonged period when Air New Zealand has failed to achieve economic profitability. When added together, these effects lead Air New Zealand to withdraw in this Counterfactual from some low-margin, high-risk markets, and to concentrate on the 'safer' Tasman and domestic routes.
- 3 The analysis in this report seeks to estimate the tourism-related welfare impact of Air New Zealand's withdrawal from selected routes. Two scenarios are examined:
  - The first scenario is the Base Confidential Counterfactual which involves a [ ] reduction in Air New Zealand capacity, driven by the withdrawal of Air New Zealand's long-haul flying as set out in confidential Appendix F of the NECG Report<sup>1</sup>. This analysis is set out in section 3.
  - The second scenario reflects the view that Air New Zealand would be most successful as a primarily domestic and short-haul carrier. This involves the same level of market withdrawal as the Base Counterfactual but with an accelerated withdrawal in years four and five. This accelerated counterfactual analysis is set out in section 4.
- 4 The tourism impacts estimated in the above scenarios are then converted to a measure of welfare. The approach adopted to do this and the results are presented in section 5.

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<sup>1</sup> NECG 2002, Report on the Competitive Effects and Public Benefits Arising from the Proposed Alliance between Qantas and Air New Zealand, 8 December.

- 5 In summary, we conclude that the Base Confidential Counterfactual would result in a potentially significant impact in New Zealand's major inbound tourism market. We estimate that, over five years, the net tourism impacts would be between approximately 78,300 tourists and 99,800 tourists, depending on the extent of "uptake" by other airlines of the capacity shed by Air New Zealand. The welfare impacts of the reduction in tourism fall in the range of \$20 million to \$350 million per annum (effects discounted over 5 years).
- 6 The Accelerated Confidential Counterfactual would result in a potentially more significant impact on New Zealand's major inbound tourism market. We estimate that, over five years, the net tourist impacts would be between approximately 89,400 tourists and 183,000 tourists depending on the extent of uptake by other airlines of the capacity shed by Air New Zealand. The welfare impacts of this reduction in tourism fall in the range of \$90 million to \$818 million per annum (effects discounted over 5 years).

## 2 Base data

- 7 We received data from several sources to conduct our analysis, including Air New Zealand, Roy Morgan, Statistics New Zealand, Ministry of Tourism and Tourism New Zealand.

### ***Air New Zealand information***

- 8 The confidential counterfactual flight schedules were sourced from Air New Zealand. The schedules reflect Air New Zealand's views on which routes they believe they would have to withdraw from in the medium-term. The tables in Attachment 1 show the number of seats per week for the counterfactual used in NECG's initial modelling, the Base Confidential Counterfactual, and the difference between the two.
- 9 In broad terms the confidential counterfactuals involve a contraction of service on the majority of long-haul flights relative to the counterfactual used in NECG's initial modelling; most notably the long-haul Pacific and Atlantic routes; and a general redeployment of these aircraft to the more stable and cost-effective domestic and trans-Tasman routes. There is also a reasonably significant reduction of capacity on Air New Zealand's Pacific Island routes.

### **Roy Morgan Survey of International Visitor to New Zealand**

- 10 Roy Morgan conducts a number of cross-country surveys, including a survey that identifies the advertising mediums that influence people in their decision to come to New Zealand. The survey is conducted in the United States, the United Kingdom and Australia. Unfortunately data for the United States and the United Kingdom could not be used in this study due to small sample sizes.<sup>2</sup> However, the data for Australia was suitably robust, with a sample of 372 respondents. The raw data can be viewed in Appendix 2.
- 11 The Roy Morgan data indicated that Australians travelling to New Zealand were influenced by a wide range of advertising mediums, from travel agents to TV travel shows to the internet. The data showed that around 11.5% of people were influenced in their decision to come to New Zealand *directly* by one of the airlines. However, airlines were also likely to be indirectly responsible for influencing some visitors' decisions through other advertising mediums including radio and TV ads, newspaper and magazine articles as well as some travel agent promotions. The magnitude of these indirect influences cannot be known for sure. It is our view however that the aggregate of indirect influences is unlikely to exceed the direct influence.
- 12 Given Australia's proximity and familiarity with New Zealand, it is reasonable to assume that airline advertising would be even more effective in long-haul markets where New Zealand's day-to-day exposure is not as great. We expect Australians to be less sensitive than other markets to airline advertising of New Zealand destinations for several reasons:
  - A large proportion of Australians have visited New Zealand, hence word-of-mouth is likely to have a strong influence on travel decisions. The Roy Morgan survey data in Attachment 2 indicates that friends and family influenced almost 30% of Australian visitors to New Zealand in their travel decision. The Statistics New Zealand International Visitor Arrival (IVA) data records 632,000 Australian visitations to New Zealand in 2002 from a resident population of around 20 million. New Zealand's other major inbound markets have much larger population bases

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<sup>2</sup> There were only four responses for the United States and five for the United Kingdom. Apparently the survey has only just been established in these countries, hence the small samples.

and considerably fewer visitor arrivals to New Zealand, hence we expect word-of-mouth to be far less influential in these markets. The table below highlights this.

**Table 1: Visitor Arrivals to New Zealand per 1000 Population for 2002**

Origin Region	Visitor Arrivals 2002 ('000s)	Estimated Population 2002 (millions)	NZ Visitations per 1000 Population
Australia	632	20	31.6
Americas	261	544	0.5
Japan	174	127	1.4
Other Asia	371	2,753	0.1
UK/Nordic/Ireland	277	88	3.1
Other Europe	138	292	0.5
Rest of World	192	2,376	0.1
TOTAL WORLD	2,045	6,200	0.3

- Repeat visitations by Australians are very common as demonstrated by the data in the table below, which has been sourced directly from the International Visitor Survey (IVS). The data shows that 71% of Australian visitations are repeat visitations. Repeat visitations from other markets are less common, implying that these markets will be more heavily influenced by targeted marketing initiatives such as those commissioned by the airlines.

**Table 2: Percentage of Visits to New Zealand that are Repeat Visits (YE June 2002)**

Origin market	Percentage of Visits that are Repeat Visits
Australia	71%
Germany	17%
Hong Kong	47%
Japan	22%
South Korea	16%
Singapore	38%
Taiwan	30%
United States	37%
United Kingdom	29%

- New Zealand gains significant exposure in Australia through sporting coverage, cultural events and programme sharing.

- The degree of advertising competition is likely to be greater in Australia than in other markets. As a result we would expect airline advertising to be less influential in Australia due to the proliferation of other formal and informal advertising mediums.
  - There is a general awareness of New Zealand because of its proximity and cultural similarity to Australia; hence additional advertising will only have a marginal effect on travel preferences.
- 13 We therefore believe that direct and indirect advertising by airlines will be more influential in other markets than it is in Australia. It is obviously difficult to establish how much more influential it is likely to be without supporting data. Our estimates of the percentage of visitors that are influenced by some form of airline advertising in each market are shown below. Please note that our definition of visitors that are influenced by some form of airline advertising relates to those visitors that would not have visited New Zealand if they were not exposed to some form of airline advertising prior to their trip. In compiling these estimates we have deliberately leaned towards the low side of conservative ranges for reasons that will become clear.

**Table 3: Percentage of Visitors to New Zealand Influenced by Airline Advertising**

Origin Market	% of Visitors Influenced by Airline Advertising
Australia	10%
Americas	15%
Japan	15%
Other Asia	15%
UK/Nordic/Ireland	15%
Other Europe	15%
Pacific Islands	10%

- 14 These figures are the starting points for our analysis of promotional expenditure below.

## 2.1 Estimate of promotional spend

- 15 Our analysis suggests that Air New Zealand accounts for as much as 90% of total expenditure by all airlines on promoting New Zealand<sup>3</sup>, while its share of seat capacity into New Zealand is around 42%. We have inferred from this information an advertising share/capacity share ratio of 2.0 for a national carrier, and have applied this ratio to Air New Zealand's advertising expenditure. The significance of this finding relates to the potential reduction in promotional spending if Air New Zealand withdraws from certain routes. Even if the vacant capacity is fully taken up by competing airlines, it is unlikely that these airlines will market New Zealand as aggressively as Air New Zealand does, resulting in a net loss of promotional expenditure and therefore exposure in these markets.
- 16 We expect a national carrier to account for a disproportionate amount of advertising expenditure relative to capacity for several reasons:
- A national carrier generally accounts for a large share of capacity on domestic routes. Because international routes act as feeders for domestic routes, the cost of advertising in international markets can be spread across a range of international and domestic sectors, as opposed to competing carriers without a domestic network, who have to recover the cost of advertising from just the main international route(s).
  - A national carrier derives a significant amount of its revenue from carrying passengers to, from and within its resident country; hence it tends to devote a large proportion of its promotional expenditure to these routes. Conversely, non-national carriers tend to derive only a small proportion of their revenue from non-core routes, and their promotional expenditures are likely to reflect this.
  - It is easier for a national carrier to produce "authentic" advertising materials due to proximity and access factors.
  - It is easier for national carriers to partner with tourism operators in overseas markets due to the authenticity of the tourism products offered, the comprehensive domestic network and the association of the national carrier's brand with the destination country.

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<sup>3</sup> In the main markets Air New Zealand serves.



- Non-national carriers tend to free ride on national carrier advertising expenditure, mainly by competing on price. Hence, non-national carriers tend to spend proportionately less than national carriers on destination promotion.
- 17 For these reasons, we consider that the use of a 2:1 ratio of promotional expenditure to seat capacity for a national carrier to be a realistic assumption.

### 3 The Base Confidential Counterfactual

- 18 The withdrawal of Air New Zealand capacity under the Base CC is likely to directly reduce the volume of tourists visiting New Zealand and also indirectly as a result of reduced promotional expenditure by Air New Zealand. Both of these impacts, and the total impact, are discussed below.

#### 3.1 Direct capacity impact

- 19 The impact of the Base CC on the volume tourists visiting New Zealand was estimated using NECG's model. The model was adapted to include the Base CC flight schedules, as well as updating the passenger growth assumptions based on an analysis by Covec (see Table 4 below).<sup>4</sup>

**Table 4: Passenger Growth Forecasts on Air New Zealand Sectors 2003-08**

Sector	2003	2004	2005	2006	2007	2008
Tasman	-0.6%	3.7%	7.2%	3.5%	4.1%	3.8%
Los Angeles	0.4%	0.6%	1.5%	2.6%	4.7%	4.8%
Other Pacific	0.8%	1.6%	3.5%	3.4%	0.7%	1.4%
Asia (excl Japan)	-4.0%	6.9%	10.0%	9.9%	8.0%	6.6%
Japan	-5.6%	5.0%	5.9%	8.0%	4.2%	2.6%
Other International	1.8%	4.2%	6.3%	4.8%	4.6%	4.4%
Freedom (non BNE)*	-0.6%	3.7%	7.2%	3.5%	4.1%	3.8%

\*Assumed to be the same as Tasman

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<sup>4</sup> The growth forecasts are not "official" forecasts – they represent Covec's best estimates of future growth rates as at April 2003, taking into account recent world events.

- 20 One key area of uncertainty was whether, and if so how, the vacant capacity left by Air New Zealand would be taken up by competing airlines. This is clearly impossible to determine with any certainty, so we calculated the results based on three scenarios:
- (1) No uptake of vacant capacity
  - (2) Partial (50%) uptake of vacant capacity
  - (3) Full (100%) uptake of vacant capacity
- 21 Hence, rather than producing a single and most likely incorrect number, our intention was to 'bound' the results to observe the range in which the correct solution lies.
- 22 For the partial and full uptake scenarios we had to predict which airline(s) would most likely take up the vacant capacity. To establish this we spoke to Air New Zealand, who gave us their expert opinion on what might happen. They were careful to tell us that these were just 'best guesses', but the results complied with our prior beliefs so we were comfortable with what they told us. In any case the Cournot model is insensitive to who took the capacity up, so these particular assumptions seems to be of little consequence.
- 23 In some cases the model was allowing the number of passengers to exceed capacity. To rectify this problem we constructed a simple macro that adjusted the price on over-subscribed sectors. The macro only operated on sectors with load factors in excess of 90%, and brought them back to 90% by increasing price accordingly. This solution method is consistent with short-run airline pricing behaviour.
- 24 At the end of this process the resulting tourism numbers for the Base CC reflect only the scheduling and pricing changes as a result of Air New Zealand's withdrawal from selected routes. As mentioned above, these impacts are observable for several capacity uptake scenarios, and are presented below. The results show the outcome of the Base CC relative to the Factual.

**Table 5: Net Tourism Impacts of Capacity and Price Changes - No Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.4%	3.7%	3.7%	3.6%	3.5%
Americas	-0.5%	-2.7%	-5.4%	-5.3%	-6.3%
Japan	-0.6%	-1.1%	-2.0%	-1.9%	-3.9%
Other Asia	-2.8%	-1.9%	-3.3%	-3.2%	-3.1%
UK/Nordic/Ireland	-1.3%	-2.2%	-3.8%	-4.0%	-4.4%
Other Europe	-1.3%	-2.2%	-3.8%	-4.0%	-4.4%
Pacific Islands	-2.0%	-5.3%	-5.6%	-5.8%	-5.7%

**Table 6: Net Tourism Impacts of Capacity and Price Changes - Partial Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.7%	5.6%	5.5%	5.4%	5.3%
Americas	0.4%	-0.6%	-1.9%	-1.9%	-1.9%
Japan	-0.6%	-1.1%	-2.0%	-1.9%	-3.9%
Other Asia	-0.6%	0.1%	-0.3%	-0.3%	-0.3%
UK/Nordic/Ireland	-0.1%	-0.5%	-1.1%	-1.0%	-1.0%
Other Europe	-0.1%	-0.5%	-1.1%	-1.0%	-1.0%
Pacific Islands	2.5%	2.0%	2.4%	2.3%	2.4%

**Table 7: Net Tourism Impacts of Capacity and Price Changes - Full Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.9%	6.7%	6.8%	6.7%	6.6%
Americas	1.2%	1.1%	0.7%	0.7%	0.8%
Japan	-0.6%	-1.1%	-2.0%	-1.9%	-3.9%
Other Asia	-0.3%	0.4%	0.8%	0.8%	0.7%
UK/Nordic/Ireland	0.3%	0.5%	0.5%	0.5%	0.5%
Other Europe	0.3%	0.5%	0.5%	0.5%	0.5%
Pacific Islands	5.0%	5.3%	5.5%	5.4%	5.4%

### 3.2 Promotional expenditure impacts

- 25 As mentioned in section 2, we believe that, depending on the market, between 10% and 15% of visitors are influenced in their decision to come to New Zealand by airline advertising. This means that airline advertising is a *material factor* in their decision making process, and that they would most likely not have visited New Zealand if they had not been exposed to some form of airline advertising.
- 26 The implication of this is that if all of the airlines stopped promoting New Zealand as a destination, we could expect a reduction in visitor arrivals of 10%-15% from these markets. As noted above, we have deliberately constructed these numbers such that they are towards the low side of the reasonable range. One way this was achieved was to assume that the direct and indirect influences were additive effects, so there was no interaction term between direct and indirect effects that would have increased the 10%-15% estimates. This is conservative because different forms of advertising tend to complement one another by increasing overall exposure, in which case a reduction in Air New Zealand's advertising will most likely have a multiplicative effect rather than the more conservative additive effect that we have assumed.
- 27 In what follows, we counterbalance this conservative estimate by assuming that the *actual* reduction in visitor numbers is the same as the maximum reduction derived above. Thus, if airline related promotional activity in Australia ceased, our approach would predict a 10% decline in visitor arrivals from Australia, other things being equal. Overall, we consider that the obvious errors in both components of this approach are likely to cancel each other out, resulting in reasonable estimates of the net effect. Data constraints have forced us to make assumptions we would have preferred to avoid, but we are comfortable that our selection of assumptions is such that the final estimates are reliable.
- 28 The next step in our analysis was to examine Air New Zealand's seat capacity on each sector and derive its market shares. The market shares were then used to infer Air New Zealand's market share in promoting New Zealand relative to other airlines<sup>5</sup>. To do this we used the assumption outlined in section 2.1 that the promotional market share for a national carrier on a sector can be approximated by doubling its capacity market share on that sector. This implies that Air New Zealand's withdrawal from certain sectors will

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<sup>5</sup> The market shares related to expenses incurred in promoting New Zealand as a destination.

lead to long-term reductions in promotional spending in those markets, even if some or all of the capacity is taken up (because the new carrier(s) will not market New Zealand as intensively as Air New Zealand did).

29 We then calculated the likely loss of gross promotional expenditure for each segment in percentage terms based on:

- The amount of seating capacity Air New Zealand intended to withdraw from the market; and
- The amount of vacant capacity taken up by rival carriers.

30 The net effect was considered to be the expected change in promotional expenditure under the CC.

31 The net promotional effect obviously varies depending on which capacity uptake scenario is being considered. The tables in Attachment 3 set out our estimated net promotional effects for the Base CC relative to the Factual.<sup>6</sup>

32 Once the changes in promotional expenditures had been calculated it was a simple case of applying these effects to the 10%-15% of visitor arrivals who were influenced by some form of airline advertising in each market to determine the net effect of the change in promotional expenditure on visitor arrivals to New Zealand. The resulting net tourism impacts of the Base CC, measured against the Factual, are contained in the following tables.

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<sup>6</sup> The Factual is the term we use to describe the world with the alliance and the most recent set of passenger growth rates.

**Table 8: Net Tourism Impacts of Changes in Airline Promotional Expenditure – No Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.9%	-4.0%	-4.0%	-4.1%
Americas	-4.2%	-5.8%	-9.4%	-9.4%	-9.4%
Japan	-0.7%	-1.2%	-2.1%	-2.1%	-2.1%
Other Asia	-3.3%	-3.5%	-6.6%	-6.6%	-6.4%
UK/Nordic/Ireland	-2.3%	-4.1%	-5.5%	-5.5%	-5.3%
Other Europe	-2.3%	-4.1%	-5.5%	-5.5%	-5.3%
Pacific Islands	-2.2%	-2.9%	-2.9%	-2.9%	-2.9%

**Table 9: Net Tourism Impacts of Changes in Airline Promotional Expenditure - Partial Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.8%	-3.9%	-3.9%	-4.0%
Americas	-3.4%	-4.5%	-8.6%	-8.6%	-8.6%
Japan	-0.6%	-1.1%	-2.1%	-2.1%	-2.1%
Other Asia	-3.2%	-3.5%	-6.3%	-6.4%	-6.1%
UK/Nordic/Ireland	-2.2%	-3.6%	-5.0%	-4.9%	-4.7%
Other Europe	-2.2%	-3.6%	-5.0%	-4.9%	-4.7%
Pacific Islands	-2.2%	-2.7%	-2.7%	-2.7%	-2.7%

**Table 10: Net Tourism Impacts of Changes in Airline Promotional Expenditure - Full Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.8%	-3.8%	-3.9%	-3.9%
Americas	-2.7%	-3.2%	-7.7%	-7.7%	-7.7%
Japan	-0.6%	-1.1%	-2.0%	-2.0%	-2.0%
Other Asia	-3.2%	-3.4%	-6.1%	-6.2%	-5.9%
UK/Nordic/Ireland	-2.0%	-3.1%	-4.4%	-4.4%	-4.2%
Other Europe	-2.0%	-3.1%	-4.4%	-4.4%	-4.2%
Pacific Islands	-2.2%	-2.5%	-2.5%	-2.5%	-2.5%

33 The results show that Air New Zealand's withdrawal from selected routes, and subsequent reduction in promotional expenditure, could have some potentially large impacts on visitor arrivals to New Zealand. Even in the 'best case' scenario of full capacity uptake there are potential losses in visitor arrival numbers of as much as 7.7% relative to the Factual (Americas).

### 3.3 Total tourism impacts

34 We believe that the effects described above (scheduling and promotional) are additive, and have treated them as such for the purposes of deriving total tourism impacts. The total net tourism impacts of the Base CC relative to the Factual are shown in the tables below.

**Table 11: Net Tourism Impact of CC Relative to the Factual - No Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	3.9%	-0.2%	-0.3%	-0.5%	-0.5%
Americas	-4.7%	-8.5%	-14.8%	-14.8%	-15.7%
Japan	-1.3%	-2.3%	-4.2%	-4.0%	-6.0%
Other Asia	-6.1%	-5.5%	-9.8%	-9.8%	-9.4%
UK/Nordic/Ireland	-3.6%	-6.3%	-9.4%	-9.5%	-9.7%
Other Europe	-3.6%	-6.3%	-9.4%	-9.5%	-9.7%
Pacific Islands	-4.2%	-8.2%	-8.5%	-8.7%	-8.6%

**Table 12: Net Tourism Impact of the CC Relative to the Factual - Partial Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	4.3%	1.8%	1.6%	1.4%	1.3%
Americas	-3.0%	-5.1%	-10.4%	-10.5%	-10.5%
Japan	-1.2%	-2.2%	-4.1%	-3.9%	-5.9%
Other Asia	-3.8%	-3.3%	-6.7%	-6.7%	-6.4%
UK/Nordic/Ireland	-2.3%	-4.1%	-6.0%	-6.0%	-5.8%
Other Europe	-2.3%	-4.1%	-6.0%	-6.0%	-5.8%
Pacific Islands	0.3%	-0.7%	-0.3%	-0.4%	-0.3%

**Table 13: Net Tourism Impact of the CC Relative to the Factual - Full Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	4.6%	3.0%	3.0%	2.8%	2.7%
Americas	-1.5%	-2.1%	-7.0%	-7.0%	-6.9%
Japan	-1.2%	-2.2%	-4.0%	-3.9%	-5.9%
Other Asia	-3.4%	-3.0%	-5.3%	-5.4%	-5.2%
UK/Nordic/Ireland	-1.7%	-2.6%	-3.9%	-3.8%	-3.7%
Other Europe	-1.7%	-2.6%	-3.9%	-3.8%	-3.7%
Pacific Islands	2.9%	2.8%	3.0%	2.9%	2.8%

- 35 The results show some potentially significant impacts in New Zealand's major inbound markets. The obvious exception is the Australian market, which benefits from greater capacity and lower prices as a result of Air New Zealand's re-focussing on trans-Tasman routes.

## 4 Accelerated Confidential Counterfactual Scenario

- 36 The Accelerated CC reflects the fact that Air New Zealand may be forced to contract to be primarily a domestic and short-haul carrier. The scenario assumes the same level of market withdrawal as the Base CC for the first 3 years, and then an accelerated withdrawal in years four and five. Under this scenario Air New Zealand would withdraw [ ] within 5 years. The methods used to derive the following impacts are the same as those used to derive the impacts described above for the Base CC.

### 4.1 Direct capacity impacts

- 37 The net tourism impacts of the accelerated scenario vary depending on the level of capacity uptake by other airlines. In the best case scenario of full uptake by other airlines, the net changes in inbound tourism activity as a result of capacity and price changes range between +6.6% for Australia and -3.9% for Japan and the Americas when measured against the Factual. The table below demonstrate these results.



**Table 14: Net Tourism Impacts of Accelerated Capacity Changes - No Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.4%	3.7%	3.7%	3.0%	0.7%
Americas	-0.5%	-2.7%	-5.4%	-9.9%	-15.2%
Japan	-0.6%	-1.1%	-2.0%	-41.7%	-100.0%
Other Asia	-2.8%	-1.9%	-3.3%	-9.7%	-18.3%
UK/Nordic/Ireland	-1.3%	-2.2%	-3.8%	-7.7%	-12.5%
Other Europe	-1.3%	-2.2%	-3.8%	-7.7%	-12.5%
Pacific Islands	-2.0%	-5.3%	-5.6%	-4.7%	-9.9%

**Table 15: Net Tourism Impacts of Accelerated Capacity Changes - Partial Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.7%	5.6%	5.5%	5.1%	4.0%
Americas	0.4%	-0.6%	-1.9%	-2.2%	-2.4%
Japan	-0.6%	-1.1%	-2.0%	-13.7%	-44.8%
Other Asia	-0.6%	0.1%	-0.3%	-1.1%	-5.8%
UK/Nordic/Ireland	-0.1%	-0.5%	-1.1%	-1.4%	-3.0%
Other Europe	-0.1%	-0.5%	-1.1%	-1.4%	-3.0%
Pacific Islands	2.5%	2.0%	2.4%	1.8%	1.4%

**Table 16: Net Tourism Impacts of Accelerated Capacity Changes - Full Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	7.9%	6.7%	6.8%	6.6%	6.6%
Americas	1.2%	1.1%	0.7%	0.7%	0.8%
Japan	-0.6%	-1.1%	-2.0%	-1.9%	-3.9%
Other Asia	-0.3%	0.4%	0.8%	0.8%	0.7%
UK/Nordic/Ireland	0.3%	0.5%	0.5%	0.5%	0.5%
Other Europe	0.3%	0.5%	0.5%	0.5%	0.5%
Pacific Islands	5.0%	5.3%	5.5%	5.4%	5.4%

## 4.2 Promotional expenditure impacts

38 In the best case scenario of full uptake by other airlines, the net changes in inbound tourism activity as a result of changes in net promotional expenditures range between -4.2% for Pacific Islands and -13.2% for Japan when measured against the Factual. The tables below demonstrate these results.

**Table 17: Net Tourism Impacts of Changes in Airline Promotional Expenditure – No Uptake (Accelerated CC)**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.9%	-4.0%	-4.7%	-5.4%
Americas	-4.2%	-5.8%	-9.4%	-11.3%	-13.2%
Japan	-0.7%	-1.2%	-2.1%	-7.8%	-13.5%
Other Asia	-3.3%	-3.5%	-6.6%	-9.9%	-12.8%
UK/Nordic/Ireland	-2.3%	-4.1%	-5.5%	-7.1%	-8.5%
Other Europe	-2.3%	-4.1%	-5.5%	-7.1%	-8.5%
Pacific Islands	-2.2%	-2.9%	-2.9%	-4.0%	-5.1%

**Table 18: Net Tourism Impacts of Changes Airline Promotional Expenditure – Partial Uptake (Accelerated CC)**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.8%	-3.9%	-4.6%	-5.2%
Americas	-3.4%	-4.5%	-8.6%	-10.2%	-11.9%
Japan	-0.6%	-1.1%	-2.1%	-7.7%	-13.4%
Other Asia	-3.2%	-3.5%	-6.3%	-9.5%	-12.2%
UK/Nordic/Ireland	-2.2%	-3.6%	-5.0%	-6.5%	-7.8%
Other Europe	-2.2%	-3.6%	-5.0%	-6.5%	-7.8%
Pacific Islands	-2.2%	-2.7%	-2.7%	-3.7%	-4.7%

**Table 19: Net Tourism Impacts of Changes in Airline Promotional Expenditure – Full Uptake (Accelerated CC)**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	-3.4%	-3.8%	-3.8%	-4.4%	-5.0%
Americas	-2.7%	-3.2%	-7.7%	-9.2%	-10.6%
Japan	-0.6%	-1.1%	-2.0%	-7.6%	-13.2%
Other Asia	-3.2%	-3.4%	-6.1%	-9.1%	-11.6%
UK/Nordic/Ireland	-2.0%	-3.1%	-4.4%	-5.8%	-7.0%
Other Europe	-2.0%	-3.1%	-4.4%	-5.8%	-7.0%
Pacific Islands	-2.2%	-2.5%	-2.5%	-3.3%	-4.2%

### 4.3 Total tourism impacts

39 In the best case scenario of full uptake by other airlines, the total net changes in inbound tourism activity as a result of Air New Zealand's withdrawal from [ ] range between +1.7% for Australia and -17.1% for Japan when measured against the Factual. The tables below demonstrate these results.

**Table 20: Net Tourism Impact of the Accelerated CC Relative to the Factual - No Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	3.9%	-0.2%	-0.3%	-1.7%	-4.7%
Americas	-4.7%	-8.5%	-14.8%	-21.2%	-28.4%
Japan	-1.3%	-2.3%	-4.2%	-49.5%	-100.0%
Other Asia	-6.1%	-5.5%	-9.8%	-19.6%	-31.1%
UK/Nordic/Ireland	-3.6%	-6.3%	-9.4%	-14.8%	-21.0%
Other Europe	-3.6%	-6.3%	-9.4%	-14.8%	-21.0%
Pacific Islands	-4.2%	-8.2%	-8.5%	-8.7%	-15.0%

**Table 21: Net Tourism Impact of the Accelerated CC Relative to the Factual - Partial Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	4.3%	1.8%	1.6%	0.5%	-1.2%
Americas	-3.0%	-5.1%	-10.4%	-12.4%	-14.4%
Japan	-1.2%	-2.2%	-4.1%	-21.4%	-58.2%
Other Asia	-3.8%	-3.3%	-6.7%	-10.6%	-18.0%
UK/Nordic/Ireland	-2.3%	-4.1%	-6.0%	-7.9%	-10.8%
Other Europe	-2.3%	-4.1%	-6.0%	-7.9%	-10.8%
Pacific Islands	0.3%	-0.7%	-0.3%	-1.8%	-3.3%

**Table 22: Net Tourism Impact of the Accelerated CC Relative to the Factual - Full Uptake**

Origin Market	2003/04	2004/05	2005/06	2006/07	2007/08
Australia	4.6%	3.0%	3.0%	2.2%	1.7%
Americas	-1.5%	-2.1%	-7.0%	-8.4%	-9.9%
Japan	-1.2%	-2.2%	-4.0%	-9.5%	-17.1%
Other Asia	-3.4%	-3.0%	-5.3%	-8.4%	-10.9%
UK/Nordic/Ireland	-1.7%	-2.6%	-3.9%	-5.3%	-6.5%
Other Europe	-1.7%	-2.6%	-3.9%	-5.3%	-6.5%
Pacific Islands	2.9%	2.8%	3.0%	2.1%	1.1%

40 This does not complete the analysis of tourism impacts. The change in tourist numbers needs to be converted to a measure of welfare. The approach for doing this and the results are discussed below in section 5.

## 5 Welfare Results

41 The modelling of the Confidential Counterfactuals indicates there would be a significant reduction in Tourism in New Zealand, absent the Alliance. The reduction in Tourism would lead to lower expenditure by tourists in New Zealand with an associated reduction in welfare.

42 To estimate the welfare impact associated with the reduction in Tourism, the percentage change in tourists given in sections 3 and 4 were converted into an absolute number of tourists. These tourists were then aggregated into three groups by country of origin. These included, New Zealand, Australian and Other foreigners. Expenditure forgone was then estimated by multiplying the change in tourist numbers by the average expenditure by these tourists. The average expenditure figures used in the analysis are detailed in Table 23.

**Table 23: Average Tourist Spend by Region (\$NZ/trip)**

Route	NZ	Australia	Foreigners
Tasman	\$1,632	\$1,770	\$3,950
Other	\$3,476	\$3,748	\$3,950

43 To evaluate the welfare implications of an expansion in Tourism several simulations were undertaken with Computable General equilibrium models. Three models were used including;

- The MONASH model of the Australian economy;
- The GTEM model of the world economy developed by the Australian Bureau of Agricultural and Resource Economics; and
- INFOMETRICS model of the New Zealand economy<sup>7</sup>.

44 In all three models two experiments were undertaken. These involved a \$100 million increase in exports of tourism and a \$100 million substitution of domestic tourism for imported tourism by New Zealanders.

45 The GTEM and Monash models are dynamic models that track through time the impact of the shocks simulated on the relevant economy. In contrast the INFOMETRIC model is comparative static. That is, it compares the economy at a point in time with and without the shock being simulated. In the application undertaken for this analysis, a

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<sup>7</sup> Adolf Stroombergen, Infometrics Consulting, Report to Network Economics Consulting Group, General Equilibrium Analysis of Higher Tourism Exports, undated.

short run version of the INFOMETRIC model was employed. The short run version of the model was used to forecast what the New Zealand economy would look like in 2004/05 with and without the change in tourism simulated.

- 46 The results from the model are summarised in terms of the increase in real consumption per dollar change in tourism. To facilitate a comparison of the results, the multipliers derived from the GTEM and Monash models were taken to be the average of the multipliers obtained from the simulations for the first five years after the assumed increase in tourism.
- 47 Across all models, an expansion in exports of tourism generates a greater dollar increase in real consumption per dollar increase in tourism (Table 24). The INFOMETRICS model generates the largest multipliers suggesting that a dollar expansion in exports of tourism would expand real consumption in New Zealand by \$1.5. However, this is a short-term impact and longer-term impacts would be expected to be lower as the economy adjusts more fully to the expansion in tourism. Thus, when the multipliers are averaged over 5 years a smaller impact is obtained. For example, the Monash model generates similar short-term multipliers to that obtained by the INFOMETRICS model. In the first year after an expansion in tourism, for example, the Monash multipliers for exports and import replacement of tourism were 1.48 and .69<sup>8</sup> respectively. However these multipliers fall through time so that when averaged over five years they are equal to about 70 per cent of the multiplier for year 1.

**Table 24: Alternate estimates of the impact on real consumption of increased tourism (\$/\$ increase in tourism)**

Source of expansion in tourism	INFOMETRICS	GTEM	Monash
Increase in exports	1.5	0.6	1.04
Import replacement tourism	0.9	0.4	0.52

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<sup>8</sup> Peter B. Dixon and Maureen T. Rimmer, "Three tourism simulations with the MONASH Model", document prepared for NECG by Centre of Policy Studies, Monash University, February 19 2003.

- 48 In this analysis we chose to use the Monash multipliers to value the expansion in Tourism modelled in the Confidential Counterfactual. This model generates similar multipliers in the short run to the INFOMETRICS model of the New Zealand economy but also provides multipliers for all 5 years of the Alliance. The Monash model may also more robustly approximate an expansion in exports of tourism than was achieved in the GTEM modelling<sup>9</sup>.
- 49 Following advice from Professor Peter Dixon<sup>10</sup>, we take the increase in real consumption to be a measure of the increase in welfare associated with an expansion in tourism. Consequently, the welfare effects of an expansion in tourism can be found by multiplying the change in tourism expenditure by the relevant Monash multipliers. The results from this analysis are given in Table 25 for the Base CC, full uptake, partial and no uptake scenarios in year three of the Alliance.

**Table 25: Tourism Welfare impacts full uptake, year 3**

<u>Tasman Route</u>		<b>Full uptake</b>	<b>Partial uptake</b>	<b>No uptake</b>
Tourists	Number	9397.0	6737	2810
Total expenditure	\$M NZ	10.5	7.5	3.1
Welfare	\$M NZ	-26.8	-19.2	-8.0
<u>Non Tasman</u>		<b>Full uptake</b>	<b>Partial uptake</b>	<b>No uptake</b>
Tourists	Number	8369	12912	19917
Total expenditure	\$M NZ	37.0	57.8	90.3
Welfare	\$M NZ	48.6	77.8	125.8
<u>Total welfare</u>	\$M NZ	21.8	58.6	117.8
<u>Total tourists</u>	Number	17766	19649	22728
<u>Total expenditure</u>	\$M NZ	47.5	65.3	93.4

<sup>9</sup> In the GTEM model, an expansion in exports of tourism was modelled as an exogenous shift in exports of commodities consumed by tourists. Professor Dixon noted that this specification could lead to a mis-specification of the commodity composition of tourism expenditures. In the Monash simulations this problem is avoided as tourists are assumed to consume bundles of commodities the components of which are held in fixed proportions. See, Peter B. Dixon, Responses to questions regarding the application of general equilibrium models to policy issues, July 16, 2003

<sup>10</sup> *ibid*, page 1.

50 The Base CC is estimated to result in a loss of between 17,766 and 22,728 tourists in New Zealand in year 3 compared with the Alliance. These lost tourists comprise mainly foreign tourists on non-Tasman routes. The resulting loss in welfare, discounted over 5 years, is between \$20 million (full up-take) and \$350 million (no uptake)(Table 26).

**Table 26: Summary of expenditure and welfare impacts associated with the Base CC (\$M NZ)**

	Full uptake		Partial uptake		No uptake	
	Expenditure impact	Welfare impact	Expenditure impact	Welfare impact	Expenditure impact	Welfare impact
Year1	18.5	-24.6	24.6	-14.6	30.3	-3.7
Year2	17.5	-17.0	30.5	11.1	48.9	55.3
Year 3	47.5	21.8	65.3	58.6	93.4	117.8
Year4	50.2	25.4	67.8	62.8	97.4	124.2
Year 5	52.0	27.1	69.7	65.4	111.3	143.2
Net present value at 6 per cent		20.3		144.0		350.0

51 Under the Accelerated CC with Air New Zealand withdrawing from [ ] by year 5, there is a substantial reduction in promotion of New Zealand in years 4 and 5. Consequently, the welfare gain associated with the Alliance is substantially higher when compared with the Accelerated CC at between \$90.4 million (full uptake discounted over 5 years) and \$817.7 million (no uptake discounted over 5 years) (Table 27).



**Table 27: Summary of expenditure and welfare effects associated with [ ] by Air New Zealand (\$m NZ)**

	Full uptake		Partial uptake		No uptake	
	Expenditure impact	Welfare impact	Expenditure impact	Welfare impact	Expenditure impact	Welfare impact
Year1	18.5	-24.6	24.6	-14.6	30.3	-3.7
Year2	17.5	-17.0	30.5	11.1	48.9	55.3
Year 3	47.5	21.8	65.3	58.6	93.4	117.8
Year4	68.9	55.8	100.0	115.2	216.1	298.4
Year 5	90.7	88.7	170.0	228.7	399.7	584.4
Net present value at 6 per cent		90.4		307.4		817.7

## **Attachment 1: Flight Schedules**

**Table 28: Air New Zealand Flight Schedule - Base Counterfactual (Seats per Week)**

[CONFIDENTIAL]

**Table 29: Air New Zealand Flight Schedule - Confidential Counterfactual (Seats per Week)**

**[CONFIDENTIAL]**

**Table 30: Change in Air New Zealand Flight Schedule Relative to Base Counterfactual  
(Seats per Week)**

**[CONFIDENTIAL]**

## Attachment 2: Roy Morgan Survey Data

**Table 31: Roy Morgan Survey of Australian Visitors to New Zealand**

Advertising Medium	Helped in Choosing Destination (%)
Travel Agent	43.5
Airline	11.5
State Tourism Authority/Government Travel Centre	2
Motoring Club (eg. AAA, etc.)	2
Tour Operator	3.1
TV advertising	2.7
TV program (eg. Lifestyle or Travel show)	7.7
Radio advertising	0.2
Radio program	0.2
Total TV or Radio	9.3
Newspaper advertising	4.4
Newspaper articles	2.1
Magazine advertising	1.2
Magazine articles	1.6
Total Newspapers or Magazines	8.5
Brochures	16.9
Travel or guide books	15.2
Friends or relatives who had visited the destination	16
Friends or relatives who live at the destination	21.5
Total Friends or Families	28.6
I had been there before	21.6
Internet	18.1
Teletext	0
Loyalty program	3.4
Some other	2
I did not obtain any information	11.2
Can't say	8.2

## **Attachment 3: Capacity, Price and Advertising Effects**

**Table 32: Net Change in Capacity (CC vs Factual) - No Uptake**

[CONFIDENTIAL]

**Table 33: Net Change in Capacity (CC vs Factual) - Partial Uptake**

[CONFIDENTIAL]

**Table 34: Net Change in Capacity (CC vs Factual) - Full Uptake**

[CONFIDENTIAL]

**Table 35: Net Change in Average Price (CC vs Factual) - No Uptake**

[CONFIDENTIAL]

**Table 36: Net Change in Average Price (CC vs Factual) - Partial Uptake**

[CONFIDENTIAL]

**Table 37: Net Change in Average Price (CC vs Factual) - Full Uptake**

[CONFIDENTIAL]

**Table 38: Change in Gross Airline Promotional Expenditure – No Uptake**

[CONFIDENTIAL]

**Table 39: Change in Gross Airline Promotional Expenditure - Partial Uptake**

[CONFIDENTIAL]

**Table 40: Change in Gross Airline Promotional Expenditure - Full Uptake**

[CONFIDENTIAL]



## **Appendix 4: Flight Schedules – Accelerated Counterfactual**

**Table 41: Air New Zealand Flight Schedule – Accelerated Confidential Counterfactual  
(Seats per Week)**

**[CONFIDENTIAL]**

**Table 42: Change in Accelerated Counterfactual Air New Zealand Flight Schedule  
Relative to Base Counterfactual (Seats per Week)**

[CONFIDENTIAL]

## **Appendix 5: Capacity, Price and Advertising Effects – Accelerated Counterfactual**

**Table 43: Net Change in Capacity (Accelerated CC vs Factual) - No Uptake**

[CONFIDENTIAL]

**Table 44: Net Change in Capacity (Accelerated CC vs Factual) - Partial Uptake**

[CONFIDENTIAL]

**Table 45: Net Change in Capacity (Accelerated CC vs Factual) - Full Uptake**

[CONFIDENTIAL]

**Table 46: Net Change in Average Price (Accelerated CC vs Factual) - No Uptake**

[CONFIDENTIAL]

**Table 47: Net Change in Average Price (Accelerated CC vs Factual) - Partial Uptake**

[CONFIDENTIAL]

**Table 48: Net Change in Average Price (Accelerated CC vs Factual) - Full Uptake**

[CONFIDENTIAL]

**Table 49: Change in Gross Airline Promotional Expenditure – No Uptake**

[CONFIDENTIAL]

**Table 50: Change in Gross Airline Promotional Expenditure - Partial Uptake**

[CONFIDENTIAL]

**Table 51: Change in Gross Airline Promotional Expenditure - Full Uptake**

[CONFIDENTIAL]