COMPASS

REPORT OF ROBERT D. WILLIG AND MARGARET E. GUERIN-CALVERT
*An Economic Analysis of the Consumer Benefits and Competitive Effects of
the Proposed Alliance Between Qantas Airways and Air New Zealand*

July 28, 2003

I.   Qualifications

1.   Our names are Robert Willig and Margaret Guerin-Calvert. Dr. Willig submitted an expert report in this proceeding on June 20, 2003.[1] His qualifications and experience are described in that report.[2]

2.   Margaret Guerin-Calvert is the President and Managing Director of Competition Policy Associates, Inc., ("COMPASS") a consulting firm in Washington, D.C. that specializes in antitrust economics and applied microeconomics. She is trained as an industrial organization economist, which is the branch of economics that involves the study of firms, industries, consumer behavior, and pricing. She has worked as an economist on issues related to competition and competition policy involving a variety of industries since 1979. During this twenty-four year period, she reviewed a large number of competition issues and cases, including many mergers, and served as an economist both in government and in the private sector. Included among these matters were airline mergers and alliances. Among other positions, she served as Assistant Chief of the Economic Regulatory Section at the Antitrust Division of the U.S. Department of Justice from 1990 to 1994, where she was responsible for supervision of mergers, civil case investigations, and regulatory filings in a wide array of regulated and unregulated industries. She also was a Principal at Economists Incorporated, where she worked on a number of matters including airline alliances and mergers.

3.   Ms. Guerin-Calvert has written and edited numerous articles on industrial organization and competition policy. She also co-edited and wrote chapters for a book on that subject. She taught economics at the Institute of Policy Sciences at Duke University. She has testified as an economic expert in a number of court proceedings or administrative hearings, including several that have involved analyses of relevant geographic market, entry and competition. A full list of Ms. Guerin-Calvert's expertise and other professional publications and activities is presented in her curriculum vitae, which is attached as Exhibit A.

II.   Introduction and Summary

4.   In Dr. Willig's initial report, he evaluated whether the assumptions and underlying economic model presented by Professor David Gillen, an outside advisor to the New Zealand Commerce Commission ("NZCC"), were consistent with sound economic analysis and the relevant academic literature. Dr. Willig concluded that they were not. In fact, Dr. Willig's review of Professor Gillen's analysis suggested that the NZCC should place no weight on the results and assessments derived from Professor Gillen's model and should make its decision regarding the proposed alliance between Qantas and Air New Zealand based on other evidence in the record.[3]

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[1] Robert D. Willig, "Report of Robert D. Willig: An Economic Assessment of Professor David Gillen's Model of the Proposed Alliance Between Qantas Airways and Air New Zealand," June 20, 2003 ("Willig Report").
[2] See Willig Report at ¶¶ 1-4 and Exhibit A.
[3] See Willig Report at ¶¶ 37-40.

5.   We have been asked by counsel for Qantas Airways and Air New Zealand to build on Dr. Willig's previous report and assess the consumer benefits and competitive effects of the proposed alliance. In particular, in this report, we provide an evaluation of the potential consumer benefits of improved scheduling and new flight options that could result from the proposed alliance, and analyze the competitive effects of the proposed alliance by using the same type of qualitative, route-by-route analysis that antitrust authorities in the United States and European Union have used to evaluate other proposed airline alliances and airline mergers.[4]

6.   To summarize our conclusions:

- The proposed alliance will produce significantly more gross consumer welfare benefits than the NZCC analysis shows because the NZCC has understated the consumer benefits from improved scheduling and new flight options.

- The academic literature shows that airline alliances, such as the one proposed by Qantas and Air New Zealand, can offer important consumer benefits, including more online flight options (which tend to be cheaper than interline flights), a more seamless travel experience, shorter durations, and improved scheduling.

- One way to evaluate the benefits of the proposed alliance is to analyze the increased services that could be offered. Our estimation shows that the proposed alliance can offer new online service on up to 855 non-directional city-pair routes between New Zealand and Australia that currently have only interline service.

- Our analysis also shows that there are a total of 226 directional city-pair routes originating or terminating in New Zealand (to/from Australia and other destinations) that would obtain reductions in the shortest online travel time as a result of the new online flight options.

- We also evaluated the benefits of moving passengers from interline to online itineraries and developed estimates of these benefits based on actual fares. Our analysis shows that interline fares are 21 percent more expensive than online fares in New Zealand and Australia (for comparable flights and tickets on routes studied). As a result, the movement from interline to online itineraries would likely result in substantial monetary savings for consumers, as well

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[4] See, for example, Testimony of Hewitt Pate, Before the Subcommittee on Antitrust, Competition, and Business Rights, Committee on the Judiciary, United States Senate, "International Aviation Alliances: Market Turmoil and the Future of Airline Competition," November 7, 2001, and "EC, Finding Only Benefits, Clears Star, Wings Alliances," *Aviation Daily*, October 30, 2002.

as other benefits (such as more seamless flights and shorter travel times).

- We estimate that the value to consumers of new online flight options would range from $42 million to $66 million per year, which represents only 2.2 percent to 3.4 percent of the total market value.[5] We estimate that the value to New Zealanders of the new online flight options would range between $21 million and $33 million per year.

- We also estimate that scheduling coordination between Qantas and Air New Zealand would provide consumers more flight options. For example, instead of having to choose between a Qantas flight at 8:00 am and an Air New Zealand flight at 8:30 am, a passenger will be able to choose a Qantas flight at 8:00 am or an Air New Zealand flight at 10:00 am.

- We also find that consumers would likely benefit from new non-stop service on four routes.

- The NZCC estimate of the benefits of the proposed alliance assumes that improved scheduling produces only small benefits (in the range of $360,000 per year), while new direct flights produce no benefits whatsoever. Given the potential improvements in scheduling and the new flight options (both non-stop and online) that appear possible from an examination of current schedules, we believe that the NZCC should assign significantly higher gross benefits to the proposed alliance.

- We adopt a more qualitative, route-by-route approach applied to the facts and data to examine *actual* and *potential* competition in the markets involved in the proposed alliance

- We conclude that the proposed alliance would increase concentration among suppliers on the Tasman and domestic New Zealand routes, but that potential entry or expansion appears as though it will act as a significant constraint on pricing.

- Our analysis of the empirical data and the record suggests that actual and potential competitors would have the incentive and the ability to enter (or expand) if the proposed alliance were to try to raise prices on the trans-Tasman and domestic New Zealand routes.

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[5] All figures are in New Zealand dollars.

- An analysis of Virgin Blue's history of entry and its recent acquisition of 10 new aircraft suggests that Virgin Blue may well seek to enter the trans-Tasman and main New Zealand trunk routes, and is especially likely to enter if the proposed alliance were to attempt to raise prices.

- We do not find any evidence that barriers exist that would inhibit the entry or expansion of Virgin Blue (on the trans-Tasman routes and main New Zealand trunk routes), the fifth freedom carriers (on the trans-Tasman routes to Auckland), and Origin Pacific (on the Wellington-Christchurch route and the provincial New Zealand routes).

- Our analysis shows that the barriers to entry and expansion that have been identified by the NZCC are not significant enough to deter actual or potential competitors from acting as protectors of competition.

7.   The remainder of our report is organized as follows: Section III evaluates the consumer benefits from improved scheduling and new flight options resulting from the proposed alliance; Section IV analyzes the competitive effects of the proposed alliance using a qualitative, route-by-route analysis with a particular focus on the incentives and the ability of potential competitors to enter (or expand) on the Tasman and domestic New Zealand routes; and Section V summarizes our conclusions.

III.   Consumer Benefits of the Qantas-Air New Zealand Alliance

8.   Both Qantas and Air New Zealand ("the applicants") and the NZCC find that the proposed alliance will produce gross social welfare benefits. However, the applicants and the NZCC differ on the magnitude of the gross social welfare benefits resulting from the proposed alliance. The NZCC has estimated that the benefits of the proposed alliance amount to $33.5 million to $49.6 million per year; the NZCC analysis suggests that the lower-bound of these benefits results completely from cost savings, while the upper-bound results from both cost savings and tourism benefits.[6] The NZCC estimates that there are few – if any – benefits from improved scheduling and new flight options.[7]

9.   Our review of the record in this proceeding, the relevant academic literature, and the application of the principles of that literature to the facts here suggest that the proposed alliance will produce significantly more gross consumer welfare benefits than the NZCC analysis shows because the NZCC has understated the consumer benefits from improved scheduling and new flight options. Since the NZCC's analysis of

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[6] The NZCC estimates that cost savings would produce benefits of $35.7 million per year and tourism benefits would range from -$2.6 million per year to $13.5 million per year.

[7] The NZCC estimates show benefits of $360,000 per year for improved scheduling and no consumer benefits from new flight options.

the benefits includes an assessment of whether the proposed alliance produces benefits for New Zealand (which includes both benefits to New Zealand consumers and the economic efficiency of the airlines), our analysis which focuses only on a subset is, by definition, conservative. It focuses on only the consumer benefits derived from improved scheduling and new flight options. The benefits we identify, for the purposes of the NZCC's evaluation, should be added to the other benefits identified by the NZCC and the applicants (such as cost savings and tourism benefits).

10. The academic literature shows that airline alliances, such as the one proposed by Qantas and Air New Zealand, can offer important consumer benefits. These consumer benefits arise from a number of efficiencies that result from the airline alliance. One such consumer benefit is produced by the ability of alliance airlines to replace existing interline flights with online connections. That is, without the alliance, it may not be possible for a passenger to travel between a city in New Zealand and a city in Australia on a single airline.[8] For passengers desiring to fly between these two cities, they must purchase two (or more) separate tickets on two (or more) different airlines; if the two airlines have an interline agreement, it is possible to buy one ticket for two different airlines. In either case, such interline flights do not offer the same convenience to passengers as do online (single airline or alliance) service.

11. An airline alliance provides the opportunity for these passengers to switch from interline itineraries to online itineraries. For example, if one airline (e.g., Qantas) offers service from city A to city B, and its alliance partner (e.g., Air New Zealand) offers service from city B to city C, the alliance could very easily offer new online service from city A to city C by combining the two legs serviced by each airline.[9]

12. By joining their portions of interline flights, airline alliances are able to offer passengers substantial improvements in service. Instead of operating as separate carriers, the two airlines will operate effectively as a single carrier, which will provide passengers with a seamless travel experience from the alliance. Instead of purchasing two tickets for an interline flight, a passenger would purchase a single ticket for the same itinerary from the alliance airline of choice. And, perhaps most importantly, by coordinating flight schedules and gate selections, alliance airlines (that have antitrust immunity) are able to further improve the quality of connecting services.[10]

13. Code-share alliances also offer passengers the prospect of effective fare reductions on the new online flights. The price of two tickets for an interline itinerary is often significantly higher than the comparable online fare charged by alliances. Such fare reductions are most likely to be able to be established in cases where the code-share alliance partners have antitrust immunity. Antitrust immunity allows alliance partners to

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[8] There may be no single airline service between the city pair, or the only single airline service between the city pair may be at an inconvenient departure time.

[9] To the passenger, the alliance service between cities A and C would appear as an integrated service offered by a single carrier.

[10] Alliance airlines could select departure times and gates so as to offer passengers optimal connections between flights.

coordinate their pricing for new online flights. By coordinating their prices the alliance airlines are able to eliminate the so-called "double marginalization" problem.[11] There may be additional price reductions associated with the switch from interline to online itineraries, if the online flights have lower marginal costs of operation. Marginal cost reductions for the online flights would occur whenever there are route economies of density.[12]

14.   Previous economic research has shown significant fare reductions associated with switching interline itineraries to online itineraries. For example, Brueckner and Whalen (2000) estimate that code-share alliance online fares are approximately 25 percent lower than the fares charged for comparable interline flights by non-allied airlines. A number of other studies have reached a similar conclusion.[13] Thus, passengers traveling on interline itineraries stand to gain significant benefits from airline alliances. Not only do these passengers experience service improvements of online travel, but they also have obtained large effective fare reductions on these flights.[14]

15.   The potential benefit of switching from interline to online service is greatest for those routes that currently have only interline or infrequent online service. However, code-share alliances do not just benefit interline flight passengers. Airline alliances also offer the convenience of online travel to passengers that would otherwise have abstained from flying. Passengers also benefit from additional online flight options such as new departure times and flight paths. Such new online departures and flight paths should improve passenger convenience and travel times.

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[11] The double marginalization problem occurs when two non-allied airlines service different parts of an interline itinerary. Each airline will set the fare for its portion of the interline flight so as to maximize its own profits. But the combined profits for the two airlines would be higher if each airline would charge lower fares and thus increase passenger demand for the interline flight.

[12] The new online routes should experience greater demand resulting from lower prices; for example, economists Jong-Hun Park and Anming Zhang found that alliances raised traffic on transatlantic routes by "some 36,000 passengers annually." Jong-Hun Park and Anming Zhang, "An Empirical Analysis of Global Airline Alliances: Cases in North Atlantic Markets," *Review of Industrial Organization*, Volume 16, June 2000. The larger passenger volumes on the route would have the effect of increasing route density and thus reducing marginal costs.

[13] See Jan Brueckner and Tom Whalen, "The Price Effects of International Airline Alliances," *The Journal of Law and Economics*, October 2000, 503-545. Brueckner (2003) estimates the fare reductions associated with the interline to online flight switch to be in the 17 to 30 percent range. See Jan Brueckner, "International Airfares in the Age if Alliances: The Effects of Codesharing and Antitrust Immunity," *Review of Economics and Statistics*, 2003, 105-133. Other studies that demonstrate price reductions associated with code share alliances include T.H. Oum, J-H. Park, and A. Zhang, "The Effects of Airline Codesharing Agreements on Firm Conduct and International Air Fares," *Journal of Transport Economics and Policy*, 30, 1996, 187-202; and Gustavo Bamberger, Dennis Carlton, and Lynette Neumann, "An Empirical Investigation of the Competitive Effects of Domestic Airline Alliances," December 2002.

[14] The switch from interline to online itineraries does not just benefit consumers. Airlines are also able to increase profits as the demand for flights increase. Therefore, a change in service from interline to online itineraries represents an unambiguous gain in efficiency.

A. Consumer Value of New Online Flights Created By the Proposed Alliance

16.   In this section, we examine the possible benefits from new online service by applying the principles set out above to the facts of this case. In particular, we develop estimates of the value to New Zealand consumers of the new online flights to be created upon full implementation of the proposed alliance. These estimates, based on application to the current domestic New Zealand and trans-Tasman flight data, indicate that the proposed alliance could likely generate substantial benefits for New Zealand consumers from the new online flight itineraries that the proposed alliance will offer.

17.   Air New Zealand currently operates flights on the New Zealand domestic trunk routes as well as trans-Tasman routes to Sydney, Melbourne, Brisbane, Perth, and Cairns. Air New Zealand also services the New Zealand provincial routes. Qantas currently operates domestic Australia routes, trans-Tasman routes to Auckland, Wellington, and Christchurch, and New Zealand domestic trunk routes. Qantas also offers service on select New Zealand provincial routes through its code-share partner Origin Pacific. (See discussion below for further data on which routes Air New Zealand and Qantas provide service.)

18.   A review of the domestic New Zealand and trans-Tasman flight schedules shows that there are a large number of cities in New Zealand and Australia in which online service is currently not offered. For example, a passenger who wants to fly between Napier, New Zealand and Adelaide, Australia must switch carriers at either a major New Zealand city (e.g., Auckland, Wellington, or Christchurch) or a major Australian city (e.g., Brisbane, Melbourne, or Sydney). Similarly, a passenger who wants to fly between Blenheim, New Zealand and Canberra, Australia does not have a choice of remaining on the same carrier for the entire trip.

19.   Our analysis examined the number of opportunities for which the proposed Air New Zealand-Qantas alliance would be in a position to provide online service for routes – similar to the Napier-Adelaide or Blenheim-Canberra routes – that are currently without online service. Based on our analysis of flight networks currently operated by Air New Zealand and Qantas, we find that the proposed alliance will be able to offer new online service on up to 855 routes that currently have only interline service.

20.   This result stems from the following facts. In New Zealand, there are a total of 15 cities served by Air New Zealand that are not served by Qantas (either directly or through its code-sharing relationship with Origin Pacific). These cities are listed in Exhibit B and could likely obtain new online connections as the result of the proposed alliance. These 15 cities are home to more than 500,000 New Zealanders, which represents roughly one in eight New Zealanders. In Australia, there are a total of 57 cities served by Qantas that are not served by Air New Zealand. These Australian cities are also listed in Exhibit B and are likely to obtain new online connections as well. These 57 Australian airports serve a large fraction of the Australian population, including major cities such as Adelaide and Canberra. Since each of the 15 New Zealand cities could

potentially have online service to each of the 57 Australia cities, there are up to 855 online routes that could be created by the proposed alliance.[15]

21. The proposed alliance would not just benefit passengers traveling on the new online city-pair routes. Academic studies of code-share alliances have found that alliances offer passengers significant improvements in service even on the routes that the alliance partners serviced prior to alliance.[16] The service improvements consist of higher flight frequencies, greater capacities, better connections, and more convenient departure times. Such service improvements are likely to produce significant consumer benefits.

22. An example may help to illuminate the benefits associated with the increased number of frequencies and online itineraries. If a passenger wants to depart Auckland and fly to Canberra, but the passenger has a breakfast meeting in Auckland and a dinner meeting in Canberra, the passenger has no option for online service. Qantas currently offers online service from Auckland to Canberra departing Auckland at 6:15 am (flying through Sydney and arriving Canberra at 10:05 am), departing Auckland at 6:25 am (flying through Melbourne and arriving Canberra at 11:50 am), departing Auckland at 6:45 am (flying through Brisbane and arriving Canberra at 1:00 pm), departing Auckland at 8:45 am (flying through Sydney and arriving Canberra at 12:40 pm), departing Auckland at 3:40 pm (flying through Sydney and arriving Canberra at 8:30 pm), and departing Auckland at 5:30 pm (flying through Sydney and arriving Canberra at 9:40 pm).[17] There are no non-stop or online one-stop flights that would allow this passenger to have a breakfast meeting in Auckland and a dinner meeting in Canberra.

23. Without any improvement in schedule coordination, the proposed alliance would provide this passenger an online itinerary that leaves Auckland in the early afternoon and arrives in Canberra in time for dinner (with time to spare). For example, the passenger could take an Air New Zealand flight departing Auckland at 1:00 pm and arriving in Sydney at 2:35 pm. The passenger could then connect to either a 3:35 pm Qantas flight to Canberra (arriving at 4:25 pm) or a 4:40 pm Qantas flight (arriving at 5:30 pm).[18] While this passenger could have flown this route via an interline itinerary, he or she would not have benefited from the efficiencies of online service (even though the

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[15] For each New Zealand city, there are 57 potential new online routes to Australia. Therefore, the total number of new potential online routes equals 15 times 57, or 855.

[16] Such academic studies include Waleed Youssef and Mark Hansen, "Consequences of Strategic Alliances Between International Airlines: The Case of Swissair and SAS," *Transportation Research-A*, 1994, Vol. 28A, 415-431; and Oliver Richard, "Flight Frequency and Mergers in Airline Markets," *International Journal of Industrial Organization*, forthcoming 2003.

[17] These flights were offered on Qantas' web site for travel on July 21, 2003. It is possible to arrive in Canberra at 6:20 pm, but the passenger would have to make two connections. For the two-connection flight, the passenger would have only one option: He or she would need to fly first from Auckland (departing at 11:30 am) to Christchurch (arriving at 12:50 pm), then fly from Christchurch (departing at 2:35 pm) to Sydney (arriving at 3:50 pm), and then fly from Sydney (departing at 5:30 pm) to Canberra (arriving at 6:20 pm). While such a two-stop flight is feasible, it raises the possibility that the passenger will miss a connection and thus miss dinner. Moreover, the total duration for a two-stop flight is nearly nine hours, whereas a one-stop flight has a duration of roughly 6 hours.

[18] These flights were offered on Air New Zealand's web site and Qantas' web site for travel on July 21, 2003.

Auckland-Canberra route already has online service). For passengers who enjoy such convenience (e.g., less risk of missing a flight connection) and increased online frequencies, the proposed alliance represents an unambiguous consumer benefit.

24.   In order to demonstrate the effects of integrating Air New Zealand and Qantas flight schedules, we simulated the integration of current Air New Zealand and Qantas schedules. To compare all of the potential new online flight options, we obtained the complete daily flight schedules of both Qantas and Air New Zealand.[19] We then analyzed the schedules to determine all of the potential flight combinations that would allow passengers to fly between each city-pair *assuming that the proposed alliance did not take steps to coordinate their schedules*. Using the current Air New Zealand and Qantas schedules, we constructed feasible online flight paths for routes serviced by the airlines. The flight paths were restricted to having no more than two stops.[20] An illustrative example may help clarify the analysis we undertook: Suppose that Qantas offered a 7:00 am flight from Auckland to Sydney and it offered two flights from Sydney to Cairns (at 9:30 am and 3:30 pm). Suppose further that Air New Zealand offered a 12:30 pm flight from Auckland to Sydney. We would show one new online flight option from the proposed alliance because passengers could connect from the later Air New Zealand flight from Auckland to Sydney to the later Qantas flight from Sydney to Cairns.

25.   By simulating the combination of current Air New Zealand and Qantas flight schedules, we find that the combined schedule would offer consumers significant online flight option improvements. Our analysis of the entire flight schedules of the two airlines shows that the proposed alliance would produce up to 1,268 new directional online routes *even if the airlines did not coordinate their scheduling* for flights originating or terminating in New Zealand.[21]

26.   Our analysis also showed another benefit to consumers of more online flight options: time savings. Without any coordination of schedules, the proposed alliance would reduce the *shortest online* travel time on 226 directional city-pair routes

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[19] The flight schedules provided by the applicants did not include any flights operated by the airlines' code-share partners.

[20] We simulated plausible online connections by restricting the connection time between flights to be between 30 minutes and six hours. To the extent that longer connection times need to be longer than those assumed in the simulation, the number of new online connections may be somewhat overstated. However, our analysis understates the number of new online connections because it does not take into account changes in scheduling which would be desirable for both the proposed alliance and passengers. To analyze the effect of combining the Qantas and Air New Zealand schedules, two sets of flight paths were created. The first set is all the flight paths that could be constructed based on either, but not both of, the Qantas or Air New Zealand schedules. Thus, each flight path in the first set is a combination of flights from the same airline. The second set of flight paths includes all the flight paths from the first set as well as the flight paths that include both Qantas and Air New Zealand flights. For instance, a flight path that consists of an Air New Zealand flight and a Qantas flight is in the second, but not in the first set of paths. The effect of combining the schedules was then assessed by comparing the two sets of flight paths.

[21] There are a number of reasons why this estimate differs from the estimate of new online flight options between New Zealand and Australia described above. For example, in the previous analysis, there would be a number of routes that require three stops. Therefore, these routes were excluded in this analysis. On the other hand, this analysis includes online flight options to destinations other than Australia, while the previous analysis focused only on new online flight options between New Zealand and Australia.

that originate or terminate in New Zealand. On these 226 city-pair routes originating or terminating in New Zealand, the shortest online flight duration would fall by an average of 9.9 percent. For example, under current flight schedules, the quickest online travel time from Auckland to Hobart is 7 hours and 10 minutes. Under the combined schedule, the quickest online travel time for the same directional route is six hours. Since consumers value being able to fly from one city to another more efficiently, the NZCC should not ignore the benefits associated with more online flight options.[22]

27.   This simulation shows the kinds of improvements in online flight connectivity that Air New Zealand and Qantas can achieve, even without modifying their current schedules. The airlines would obtain further improvements in online flight options through schedule coordination and reallocation of aircraft. Thus, the flight integration simulation based on current schedules demonstrates only a lower bound of online connectivity benefits of the proposed alliance. The creation of these online routes from the proposed alliance has the potential to generate significant consumer benefits for New Zealand. These benefits would likely manifest themselves in two ways: First, New Zealanders would be better off because it would be cheaper and easier for them to visit Australia and other destinations and return home; and second, Australians would find it cheaper and easier to visit New Zealand, *ceteris paribus*, which produces benefits to New Zealand's tourism sector.

28.   As noted above, the academic literature has shown that online itineraries were roughly 25 percent cheaper, on average, than interline itineraries. In order to test whether this evidence is consistent with experience in the New Zealand and Australian markets, we compared the prices of 20 routes between major cities in New Zealand (e.g., Auckland, Wellington, and Christchurch) and cities in Australia. For each route, we compared the round-trip, one-stop, online itinerary price offered for a business-class seat on Qantas, and the interline price offered if a passenger wanted to fly on the trans-Tasman segment (e.g., Auckland to Sydney) on Air New Zealand and the segment within Australia (e.g., Sydney to Cairns) on Qantas.[23] We found that the online itineraries were, on average, 21 percent lower than interline itineraries. See Table 1. Our results, therefore, are consistent with the empirical literature.

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[22] The applicants' economists submitted a report which incorporated the consumer benefits of the time savings resulting from the proposed alliance. See Network Economics Consulting Group, "Report on the Competitive Effects and Public Benefits Arising from the Proposed Alliance Between Qantas and Air New Zealand," December 8, 2002 at 139-144. ("NECG Report")

[23] We booked the flights for travel on August 4, 2003 from Auckland and on August 6, 2003 returning to Auckland using www.qantas.com and www.airnz.co.nz. We excluded any route which did not offer business-class tickets. We focused our analysis on business-class tickets because of concerns about fare restrictions with economy tickets; that is, we have a high degree of confidence that the fares we are comparing are for similar tickets with similar restrictions.

Table 1: Comparison of Online and Interline Fares for 20 Routes			
Route	Interline Fare	Online Fare	Fare Difference Between Online and Interline Fares
Auckland-Melbourne-Adelaide	$3,300.81	$2,803.20	-15.1%
Auckland-Sydney-Canberra	$2,840.04	$2,531.50	-10.9%
Auckland-Sydney-Cairns	$4,308.89	$2,947.90	-31.6%
Auckland-Brisbane-Darwin	$4,847.86	$3,614.40	-25.4%
Auckland-Sydney-Darwin	$4,798.89	$4,069.00	-15.2%
Auckland-Sydney-Gold Coast	$3,368.15	$2,322.40	-31.0%
Auckland-Melbourne-Perth	$4,761.82	$2,775.30	-41.7%
Auckland-Brisbane-Townsville	$3,616.71	$2,978.20	-17.7%
Wellington-Melbourne-Adelaide	$3,300.81	$2,803.20	-15.1%
Wellington-Melbourne-Canberra	$3,164.02	$2,733.40	-13.6%
Wellington-Sydney-Cairns	$4,308.89	$3,493.90	-18.9%
Wellington-Sydney-Darwin	$4,798.89	$4,806.00	0.1%
Wellington-Sydney-Gold Coast	$3,368.15	$3,566.40	5.9%
Wellington-Melbourne-Perth	$4,761.82	$2,775.30	-41.7%
Christchurch-Sydney-Adelaide	$3,623.80	$2,950.20	-18.6%
Christchurch-Sydney-Canberra	$2,840.04	$2,531.50	-10.9%
Christchurch-Sydney-Cairns	$4,308.89	$2,947.90	-31.6%
Christchurch-Sydney-Darwin	$4,798.89	$4,069.00	-15.2%
Christchurch-Sydney-Gold Coast	$3,368.15	$2,322.40	-31.0%
Christchurch-Sydney-Perth	$4,956.98	$2,816.30	-43.2%
		Average Fare Difference	**-21.1%**

* All figures are in New Zealand dollars

29.   We attempted to extend this analysis and estimate the consumer benefits from new online flights. In order to develop these estimates, it is necessary to make certain basic assumptions about both passengers' preferences and airline markets. We tested our results by varying the assumptions. In particular, in order to produce a quantitative estimate, one needs three basic parameters:

- The first parameter is consumers' total expenditures on Air New Zealand/Qantas interline flights. These expenditures represent the set of current interline flights that the proposed alliance will be able to offer as new online service. We denote the Air New Zealand/Qantas interline flight expenditures as ε_i. Based on information provided to us, we estimate that total annual Air New Zealand/Qantas interline expenditures are approximately $114 million.[24] We test the sensitivity of our calculations with two additional values of interline expenditure: $85.5 and $142.5 million, which represent plus 25 percent and minus 25 percent of our estimate of interline expenditures.

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[24] See Exhibit D for methodology used to estimate interline expenditures.

- The second parameter represents the consumer benefits of switching from an interline to online itinerary. This benefit has two components. The first component is the lower fares associated with online itineraries. Based on the estimates of Brueckner and Whalen (2000) and our analysis of the difference between interline and online fares, we assume that interline fares decrease by between 21 percent and 25 percent as a consequence of conversion from interline to online. The second component is consumers' valuation of online flights relative to similar interline itineraries. That is, as noted in more detail below, consumers obtain greater benefits than just lower fares from online (versus interline) travel. For example, consumers obtain time savings and a more seamless travel experience. Ordover and Novy-Marx (2001) assume that this second component equals between 10 percent and 20 percent of the fare price.[25] Therefore, in our calculations, the total consumer benefit of converting an itinerary from interline to online is denoted as β, where β ranges from a lower-bound of 31 percent (21 percent plus 10 percent) to an upper-bound of 45 percent (25 percent plus 20 percent).

- The final parameter required for our estimation is the price elasticity of demand, which we denote as η. We assume three alternative values of the price elasticity of demand: -1, -1.3 (which is consistent with the applicants' estimate of the elasticity of demand in the Tasman market), and -1.7 (which is consistent with the applicants' estimate of the elasticity of demand of tourists in the Tasman market).

30. We can then use these three parameters to estimate the consumer benefits of new online flights with the following expression.[26]

$$\chi = \varepsilon_i \beta \left(1 - \beta \frac{\eta}{2}\right) \qquad (1)$$

where χ equals the consumer benefits of new online flights. We estimate equation (1) using the assumed values for ε_i, β, and η described above. Table 2 shows our estimates of the consumer benefits (χ) accruing from the new online itineraries. The table shows

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[25] See Janusz Ordover and Milena Novy-Marx, "Consumer Benefits to Online Passengers Resulting from a British Airways-American Airlines Alliance," Mimeo, November 2001. The Ordover/Novy-Marx assumption about the value consumers place on online versus interline itineraries is consistent with Carlton et al. (1980), which finds that the value to consumers of an online flight is 11 to 15 percent greater that that of a comparable interline flight. See Dennis Carlton, William Landes, and Richard Posner, "Benefits and Costs of Airline Mergers: A Case Study," *Bell Journal of Economics*, 1980, 73, 65-83. To be sure, these estimates of the value consumers assign to online itineraries (relative to interline itineraries) are based on data from the United States and Europe, which may not be directly comparable to the valuation that New Zealanders place on online itineraries (relative to interline itineraries).
[26] The consumer benefits expression is based on the assumption that demand is linear in price. See Exhibit C for the derivation of the benefits expression. The estimated consumer benefits would be even larger under the assumption of isoelastic demand.

the estimates based on alternative values of interline expenditures, elasticity of demands, and online benefit parameters.

31.   Since the NZCC estimate of the consumer benefits assumes no benefits from new flight options, the estimates in Table 2 suggest that the NZCC estimate is a significant understatement. For example, if the elasticity of demand is equal to -1.3 and aggregate interline expenditures total $114 million per year, the consumer benefits of new online flights ranges between $42 million and $66 million. Such consumer benefits appear to be quite reasonable when compared to the size of the markets. Expenditures on flights in the Tasman and domestic New Zealand markets totaled $1.935 billion, according to the NZCC.[27] Consumer benefits of $42 million to $66 million therefore represent only 2.2 percent to 3.4 percent of the total market value. We estimate New Zealanders' share of these consumer benefits is approximately 50 percent. Thus, we anticipate that the value to New Zealanders of the new online options would range between $21 million and $33 million per year.

Table 2: Estimated Consumer Benefits of the Proposed Alliance for New Zealand Domestic and trans-Tasman Routes ($NZ Million)				
$\beta = 31\%$		Interline Expenditures (ε_i) ($NZ Million)		
		$85.5	$114	$142.5
Demand Elasticity (η)	-1.0	$31	$41	$51
	-1.3	$32	$42	$53
	-1.7	$33	$45	$56
$\beta = 45\%$		Interline Expenditures (ε_i) ($NZ Million)		
		$85.5	$114	$142.5
Demand Elasticity (η)	-1.0	$47	$63	$79
	-1.3	$50	$66	$83
	-1.7	$53	$71	$89

32.   Another consumer benefit from the proposed alliance is the improvement in service on the gateway-to-gateway routes (i.e., routes that the alliance airlines serviced prior to alliance). Code-share alliances increase the demand for travel on routes that originate from or terminate in a "behind the gateway" airport of an alliance partner (see below for an example of this benefit).[28] The higher passenger volumes from behind the gateway airports would then increase the alliance gateway-to-gateway traffic. Thus, the alliance airlines would be able to take advantage of economies of density and decrease their incremental (average and/or marginal) costs of service. Any incremental cost

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[27] New Zealand Commerce Commission, "Commerce Commission Draft Determination," April 10, 2003 ("Draft Determination") at ¶ 667.
[28] Alliances increase the demand for the behind the gateway routes because of the alliances' additional online flights and lower fares on such routes.

reductions would likely result in higher output and more frequent service on the gateway-to-gateway routes.[29]

33.   As described above, alliance airlines are able to coordinate their schedules to offer more convenient departure times on the gateway-to-gateway routes. Non-allied airlines commonly schedule departures within the same narrow time intervals. While such schedules allow airlines to compete effectively against peers, passengers would generally prefer departure times that are more staggered (and thus cover a wider time window). Thus, by coordinating their schedules, alliance airlines are able to provide additional service improvements on the gateway-to-gateway routes.

34.   An analysis of the entire schedules of both Air New Zealand and Qantas shows that 77 percent of Air New Zealand non-stop flights depart within one hour of the same Qantas flights on the same routes.[30] Similarly, 70 percent of Qantas flights on the routes depart within one hour of the comparable Air New Zealand flights. If Qantas and Air New Zealand were able to coordinate their flight schedules, we expect that the airlines would schedule flights so that there were generally at least one hour between departure times on each non-stop route. Applying such a rule to the Year 3 factual flight frequencies implies that the proposed alliance could offer passengers departure time windows on major non-stop routes that were significantly wider than the current departure time windows on the same routes, thereby offering increased frequencies throughout the day. Such an increase in departure times is an improvement in consumer welfare, which the NZCC appears to have largely (or completely) ignored.

B. Consumer Benefits of New Non-Stop Flights Created By the Proposed Alliance

35.   Another consumer benefit from the proposed alliance is the potential for new, non-stop service between cities that currently only have connecting service between them. The applicants have identified a number of routes that would receive non-stop service, including Auckland to Adelaide, Auckland to Hobart, Auckland to Canberra, and Wellington to Canberra. The NZCC does not appear to assign any consumer benefits to such new non-stop service, even though consumers would clearly benefit from its initiation.

36.   The NZCC stated in its Draft Determination that the non-stop service would not produce any public benefits because of the "uncertainty of the relationship between the proposed Alliance and the economic viability" of the new non-stop service.[31] The NZCC, therefore, appears to believe that the new non-stop routes are too "thin" for the alliance to serve them.[32] While we have not undertaken a detailed analysis of the

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[29] Other alliance-related marginal cost savings (such as efficiencies gained from baggage handling and check-in services) should also result in service improvements on the gateway-to-gateway routes. See, for example, NECG Report at 135.

[30] This analysis compares only routes on which both Qantas and Air New Zealand provide service.

[31] Draft Determination at ¶ 814.

[32] The NZCC also seems to suggest that, because the new non-stop service would cannibalize demand from existing connecting flights, these non-stop flights must be unprofitable. Of course, this line of reasoning could be applied to any existing non-stop flight, yet airlines continue to offer non-stop service.

profitability of each of these routes, there are sound economic arguments in favor of the NZCC assigning *some* benefits to the potential for new non-stop routes. The profit maximization decision for the alliance would be different than the profit maximization decision each airline on its own would undergo. Therefore, it is entirely possible that each airline on its own would decide not to serve the non-stop route, but the proposed alliance would decide to serve the route. One way that the alliance decision is different than that of each individual airline is the efficiency gains obtained in aircraft allocation. That is, the alliance will be able more efficiently to use its aircraft than either airline can on its own, which makes it cheaper for the alliance to devote an aircraft to the new non-stop routes.

C. Summary

37.   Network Economics Consulting Group ("NECG") in its initial report quantified many of these consumer benefits. The NECG estimates were based on comparing the factual schedules with a counterfactual in which both airlines engage in a war of attrition. Since the counterfactual shows a significant increase in frequencies (relative to the base case), the NECG estimates of consumer benefits from improved scheduling and new flight options are lower than those from an analysis that compares the factual to the base case. If the NZCC adopts a counterfactual that is closer to the base case than NECG's counterfactual, the NZCC should also assign higher benefits to improved scheduling and new flight options.

38.   Indeed, our analysis suggests that the full implementation of the proposed alliance would produce substantial benefits, relative to the base case, in terms of improved scheduling and new flight options. The NZCC estimate of the benefits of the proposed alliance assumes that improved scheduling produces only small benefits (in the range of $360,000 per year), while new direct flights produce no benefits whatsoever. Given all of the potential improvements in scheduling and the new flight options (both non-stop and online), our analysis suggests that the NZCC has significantly understated the gross consumer benefits of the proposed alliance.

IV.   Route-by-Route Competitive Effects Analysis of the Qantas-Air New Zealand Alliance

39.   As part of their application, the applicants submitted an economic model developed by their economic consultants, NECG. The NECG model suggested only modest competitive detriments from the proposed alliance. The NZCC in its Draft Determination put forward an economic model developed by its economic expert, Professor David Gillen. Dr. Willig's initial report showed the numerous flaws in Professor Gillen's assumptions and implementation of his model.

40.   Two of Dr. Willig's primary criticisms of Professor Gillen's model were that he failed to account for *actual* competition in the Tasman and domestic New Zealand regions, and he failed to account properly for *potential* competition on the trans-Tasman and domestic New Zealand routes. In order to bolster Dr. Willig's previous critique of

Professor Gillen's modeling and to deepen the record in this proceeding, we adopt a more qualitative, route-by-route approach applied to the facts and data to examine *actual* and *potential* competition on the routes involved in the proposed alliance.

41.   The type of route-by-route analysis that we undertake in this section is similar to analyses that the U.S. Department of Justice's Antitrust Division and the European Commission's Competition Unit utilize to consider proposed airline alliances. For example, Hewitt Pate, the current U.S. Assistant Attorney General for the Antitrust Division, stated in testimony to the U.S. Congress that the Antitrust Division considers the competitive effects of a proposed alliance on a "case-by-case basis – and a market-by-market-basis."[33]   Mario Monti, the European Union's Competition Commissioner, confirmed the desirability of examining a proposed combination on a route-by-route basis when he stated that regulators must examine whether a proposed airline alliance harms competition "on specific routes."[34]

42.   In order to undertake the route-by-route analysis, one must first determine the complete set of routes on which the proposed alliance partners compete.[35] This set should include routes served by either carrier through code-share relationships, as well as all the routes on which each airline has the potential to offer service in the near future. For the purposes of this first step – due largely to the lack of data – we focus on non-stop, regularly scheduled commercial passenger flights between two airports.[36] We consider the Tasman and domestic New Zealand routes.[37] Our analysis suggests that there are at least 12 commercial carriers that offer regular service on at least one of the routes in these markets.[38]

43.   For each route in the Tasman and domestic New Zealand regions, we determine the extent to which the proposed alliance creates a circumstance in which the

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[33] Hewitt Pate, Before the Subcommittee on Antitrust, Competition, and Business Rights, Committee on the Judiciary, United States Senate, "International Aviation Alliances: Market Turmoil and the Future of Airline Competition," November 7, 2001.

[34] "EC, Finding Only Benefits, Clears Star, Wings Alliances," *Aviation Daily*, October 30, 2002.

[35] NECG has already examined the competitive effects of moving from their projected counterfactual to the factual. Therefore, we focus on using the NZCC's counterfactual for our analysis. That is, since the NZCC appears to have adopted a counterfactual that is relatively close to the base case in its Draft Determination, we adopt the base case as our counterfactual.

[36] We do not consider the effect of connecting flights that may offer a similar service but require a change of planes or a stopover at a third airport. Since the data show that a modest percentage of people use connecting flights on those routes on which Qantas and Air New Zealand compete with each other with non-stop service, ignoring connecting flights is unlikely to influence dramatically the analysis that we undertake below. Indeed, on the Tasman and main New Zealand trunk routes, non-stop passengers are, on average, more than 90 percent of all traffic on each route.

[37] The NZCC treat the main New Zealand trunk routes as separate from the New Zealand provincial routes. For the purposes of our presentation, we combine them and present the data for the domestic New Zealand market as a whole.

[38] The carriers include Air New Zealand, Qantas, Origin Pacific, Aerolineas Argentinas, Emirates Airlines, Lan Chile, Polynesian, Thai Airways, Garuda Indonesia, Malaysian Airlines, Royal Brunei Airlines, and Royal Tongan Airlines. While Freedom Air also serves these markets, we treat Freedom Air as part of Air New Zealand.

alliance parties could potentially raise prices significantly or reduce service or quality. Specifically, on each route we consider the following factors:

- the competitive significance of Air New Zealand, Qantas, and any other carriers offering service on the route,

- the presence of other carriers at the route's origin and destination airports, carriers that are not currently offering service on the route,

- the availability of infrastructure, like landing slots or gates, at the route's origin and destination airports,

- the viability of the route for additional competitors given typical passenger patterns, and

- the characteristics and demographics of the cities served by each airport.

44.   We measure each carrier's competitive significance by calculating their share of seats per week offered on the route. It is important to emphasize that market shares are a starting point in any analysis and do not determine the degree and nature of competition between market participants. It is the degree and nature of competition which would determine the competitive effects of a proposed alliance. To the extent that two market participants are closer competitors than their market shares would suggest, the competitive effects of a proposed alliance would be larger, and to the extent that two market participants are less competitive than their market shares would suggest, the competitive effects of a proposed alliance would be smaller.[39]

A. The Tasman Region

45.   There are 14 routes within the Tasman region that we examined in our analysis of possible competitive effects. Air New Zealand offers service on each of these routes, sometimes through its subsidiary Freedom Air.[40] Qantas offers service on nine of these Tasman routes, and has a presence at one or both airports on all the remaining routes.[41] Table 3 presents data on the nine routes on which Qantas and Air New Zealand currently compete directly with non-stop service. As the table shows, there are actual competitors currently on three of these trans-Tasman routes. For example,[42]

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[39] See, for example, Carl Shapiro, "Mergers with Differentiated Products," Remarks before the American Bar Association, 1995.

[40] For purposes of calculating market shares, we treat Air New Zealand and Freedom Air as a single carrier.

[41] For example, while Qantas does not offer non-stop service from Auckland to Perth, it has a presence at both airports.

[42] Our analysis includes the capacity offered by Emirates Airlines and Royal Brunei Airlines since both airlines have committed to enter the trans-Tasman routes. The inclusion of these airlines explains the difference between our results and the results presented in the applicants' filing. See Submission by Applicant on Draft Determination, Chapter 4 at 4.

- Thai Airways offers non-stop service on the Auckland-Sydney and the Auckland-Brisbane routes. With roughly 400 seats each day on a Boeing 747, Thai Airways offers 14 percent of the available seats on the Auckland-Sydney route. On the Auckland-Brisbane route, Thai Airways flies a 285-seat MD-11, which means that Thai Airways offers seven percent of overall capacity on that route;

- Malaysia Airlines offers non-stop service on the Auckland-Brisbane route with a Boeing 747-400, allowing Malaysia Airlines to supply 15 percent of the Auckland-Brisbane capacity;

- Garuda Indonesia offers non-stop service on the Auckland-Brisbane route with an Airbus 330, allowing Garuda Indonesia to supply seven percent of the capacity on the Auckland-Brisbane route;

- Emirates Airlines has announced that, effective August 1, 2003, it will offer 380 seats per day of non-stop service on a Boeing 777-300 from Sydney to Auckland *and* from Melbourne to Auckland. Such service will account for 14 percent of the Auckland-Sydney capacity and 33 percent of the Auckland-Melbourne capacity. Emirates has announced that it will enter the Auckland-Brisbane route in October with daily non-stop service, which means that Emirates will offer 21 percent of the Auckland-Brisbane capacity;

- Royal Brunei Airlines has announced that it will enter the Auckland-Brisbane route with four weekly 224-seat Boeing 767 flights. Royal Brunei will thus offer four percent of the weekly capacity on the Auckland-Brisbane route;

- Aerolineas Argentinas offers non-stop service on the Auckland to Sydney route with an Airbus 340. Aerolineas Argentinas supplies three percent of capacity on that route;

- Lan Chile offers non-stop service from Auckland to Sydney with an Airbus 340, which allows it to supply three percent of the capacity on that route;

- Royal Tongan offers 1.4 percent of the non-stop capacity on the Auckland-Sydney route; and

- Polynesian offers 1.2 percent of the non-stop capacity on the Auckland to Sydney route.

46.   Two of the most important Tasman routes, therefore, can be characterized as enjoying a significant degree of actual competition. As the Australia Competition and Consumer Commission ("ACCC") concluded, "fifth freedom carriers have provided

strong competition… and have been a significant determinant in setting prices."[43] Despite the competition among incumbents on the trans-Tasman routes to Auckland, the proposed alliance would increase concentration among suppliers on other routes *unless there were entry by other airlines, either unconditionally or in the event of an attempt to exercise market power.*

Table 3: Tasman Routes							
Origination	*Destination*	*# of Carriers*	*Seats per day*	*Freq. per day*	*NZ seats*	*QF seats*	*NZ+ QF seats*	*Carriers on route*
Auckland	Sydney	8	2,798	12	30%	34%	64%	• Aerolineas Argentinas • Emirates Airlines • Lan Chile • Air New Zealand • Polynesian • Qantas • Thai Airways • Royal Tongan
Auckland	Brisbane	7	1,780	5	24%	22%	46%	• Emirates Airlines • Garuda Indonesia • Malaysia Airlines • Air New Zealand • Qantas • Freedom Air* • Thai Airways • Royal Brunei
Auckland	Melbourne	3	1,151	5	35%	32%	67%	• Air New Zealand • Qantas • Emirates Airlines
Christchurch	Sydney	2	763	4	36%	64%	100%	• Air New Zealand • Qantas
Wellington	Sydney	2	411	3	52%	48%	100%	• Air New Zealand • Qantas
Christchurch	Melbourne	2	275	2	49%	51%	100%	• Air New Zealand • Qantas
Christchurch	Brisbane	2	265	2	68%	32%	100%	• Air New Zealand • Qantas • Freedom Air*
Melbourne	Wellington	2	210	2	65%	35%	100%	• Air New Zealand • Qantas
Brisbane	Wellington	2	177	1	69%	31%	100%	• Qantas • Freedom Air*

* Freedom Air is a subsidiary of Air New Zealand

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[43] Australia Competition and Consumer Commission, "Submission to the Industry Commission Inquiry into International Air Services", April 20, 1998 at 5.

47.   Our analysis suggests that potential entry or expansion appears as though it will act as a significant constraint on pricing on the trans-Tasman routes. Our analysis of the empirical data suggests that actual and potential competitors would have the *incentive* and the *ability* to enter if the proposed alliance were to try to raise prices on the trans-Tasman routes into Auckland, and Virgin Blue would have the *incentive* and *ability* to enter if the proposed alliance were to try to raise prices on the trans-Tasman routes from Australia to Christchurch and Wellington. It is important to emphasize, as Dr. Willig did in his initial report, that it is not necessary for an actual competitor to expand capacity or for a potential competitor to enter the market for prices on a particular route to be constrained.[44] That is, the presence of the potential new competition on any particular route predictably would serve as a competitive constraint *as long as there do not exist barriers to expansion or entry on the particular route.* As our analysis shows below, we do not believe that such barriers to expansion or entry exist on these routes.

48.   The first question is which airlines could expand capacity on each Tasman route to constrain the prices of the proposed alliance. On the three routes on which fifth freedom carriers currently provide service, these airlines serve as the first line of defense against any price increase by the proposed alliance. If the proposed alliance attempted to raise prices, consumers could choose to fly on one of the flights currently offered by a fifth freedom carrier. As an Aerolineas Argentinas executive recently stated, "I definitely dispute that there's going to be no competition if the merger goes through… [w]e're here and there are several others who can take you to Australia."[45] (See below for further discussion of these issues.) But there are potential competitors as well as the actual competitors on these trans-Tasman routes. Economists and government regulators have generally (but not always) counted any carrier that provides service to one city in a city-pair route as a potential competitor on the city-pair route.[46]

49.   Our review of the data suggests that there are a number of potential competitors; for example, roughly 30 international carriers and a number of domestic and regional carriers serve Sydney Airport.[47] Each of these carriers needs to be considered as a potential entrant. While one can quickly discount the possibility that certain of these airlines will enter the trans-Tasman routes,[48] we need to undertake a more complete analysis of other potential entrants, especially Virgin Blue and the 12 carriers that we

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[44] In Dr. Willig's initial report, he stated, "My analysis of the record in this proceeding suggests that the [Value-Based Airlines ("VBAs")] serve as the protectors of competition. If the proposed alliance were to *attempt* to raise prices on a route on which a VBA is a potential competitor, it would make it more likely that a VBA would enter the market. If the proposed alliance were to keep prices low to the benefit of consumers, VBAs might accordingly shy away from entry because the potential for gaining market share and profits would be low." Willig Report at ¶ 17.

[45] As quoted in Submission by Applicant on Draft Determination, Chapter 4 at 3.

[46] See Robert Willig, "Antitrust Lessons from the Airline Industry: The DOJ Experience," *Antitrust Law Journal*, August 1991. See Willig Report at fn. 17 for further discussion of the caveats associated with this point.

[47] See http://www.sydneyairport.com.au/Sydney+Airport/airlines/Airline+Introductory+Page.htm

[48] For example, while Air Canada serves Sydney Airport, it is unlikely that it will enter any Tasman route since the airline is currently in bankruptcy.

understand have unexercised fifth freedom rights.[49] We therefore consider the incentives and ability for Virgin Blue to enter all nine trans-Tasman routes, and the incentive and ability of the fifth freedom carriers with unexercised rights to enter the three trans-Tasman routes into Auckland.[50]

50.   Virgin Blue has stated that "it has taken steps to establish operations on the trans Tasman and domestic routes and is now confident that it will be able to *commence operations relatively quickly*."[51] Virgin Blue had previously stated that it "has long identified a desire to offer services across the Tasman and on New Zealand domestic routes. In general Virgin Blue considers that the trans Tasman and New Zealand domestic routes offer a substantial opportunity to Virgin Blue to enter, given its low fare model."[52] Virgin Blue continued to note that, "When determining whether it is feasible to offer a service in Australia, as a general rule, Virgin Blue believes that it is possible to provide services to any city that has a population of greater than 50,000."[53] Since Auckland (nearly 1.1 million people), Wellington (more than 300,000 people), and Christchurch (more than 300,000 people) have populations well in excess of 50,000 people, it would appear as though Virgin Blue would have the incentive to serve the routes from Brisbane, Melbourne, and Sydney to each of Auckland, Wellington, and Christchurch.

51.   Virgin Blue's incentive to serve the nine trans-Tasman routes would be consistent with its history. The first two markets that Virgin Blue entered in Australia (Brisbane-Sydney and Brisbane-Melbourne) are two of the three biggest markets in the country. Virgin Blue has continued this pattern of generally serving larger markets first. As Figure 1 shows, the routes Virgin Blue entered in 2000 had an average daily (each way) seat capacity of more than 4,000 prior to Virgin Blue's entry, while the routes Virgin Blue has entered so far in 2003 have an average daily seat capacity of less than 900.[54] Since Virgin Blue now serves 24 of the 30 largest domestic Australian routes,[55] it will need to seek new, larger routes (such as the Tasman routes) to continue its growth.[56] Virgin Blue's ability to expand into new routes is intensified by its recent acquisition of

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[49] See Submission by Applicant on Draft Determination, Chapter 4 at 10. The 12 fifth freedom carriers include Singapore Airlines; United Airlines; British Airways; Air China; Air France; Lufthansa; Cathay Pacific; Air Macau; Mandarin Airlines; Continental; Delta; and American Airlines.

[50] We do not consider fifth freedom carrier entry on the trans-Tasman routes to Wellington because we understand that Wellington Airport cannot handle wide-body airplanes, and we do not consider such carriers on the trans-Tasman routes to Christchurch because of the size of the market. Such an assumption appears conservative, since Emirates Airlines has indicated that it desires to fly to Christchurch. See Roeland van den Bergh, "Christchurch on Emirates' List," *Dominion Post*, July 19, 2003.

[51] Virgin Blue, Cross Submission in Response to Draft Determination, July 21, 2003 at 4 (emphasis added).

[52] Virgin Blue, Submission in Response to Applications for Authorisation of the Proposed Qantas/Air New Zealand/Air Pacific Alliance, February 12, 2003 at 15.

[53] *Ibid* at 16.

[54] To control for any seasonal issues, the average daily (each way) seat capacity prior to Virgin Blue's entry equals the average daily (each way) seat capacity in the most recent February to April period before Virgin Blue's entry.

[55] See Submission by Applicant on Draft Determination, Chapter 4 at 32.

[56] Virgin Blue's expansion decision would differ from its decision to enter as a *de novo* carrier in that it already has developed a brand, basic operations at the Australian airports involved in the trans-Tasman routes and experience in entering new routes over the last three years.

new aircraft. According to Virgin Blue's website, it will receive 10 new Boeing 737-800s within the next year.[57] These new aircraft provide Virgin Blue the incentive and capacity to expand services to the trans-Tasman routes.

Figure 1: Daily (Each Way) Seat Capacity on Routes Entered by Virgin Blue (Prior to Entry)
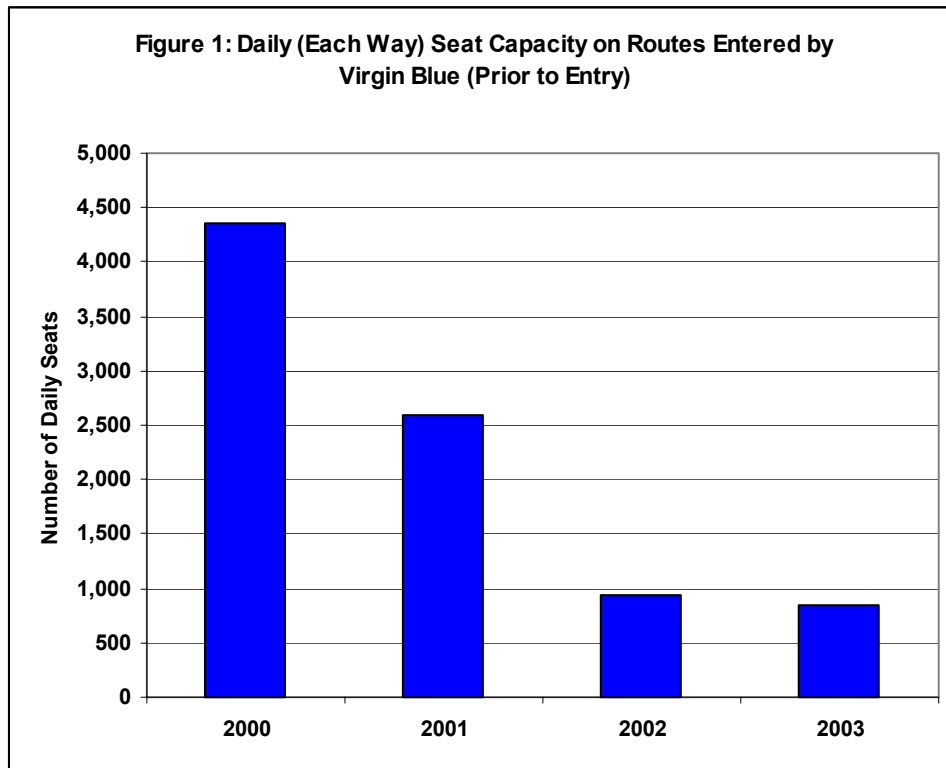
52.   One concern may be that even if Virgin Blue entered the market, it would not constrain the prices of the proposed alliance. Such a concern is unfounded and inconsistent with the empirical evidence. A study by economist Steven Morrison found that Southwest – the most famous U.S-based VBA – causes *actual* competitors to reduce fares by between 15 percent and 46 percent, and causes *potential* competitors to cut fares by as much as 33 percent.[58] Another academic study found that Southwest's "presence in a market… causes all its competitors to lower fares significantly."[59] Although Virgin Blue has not been established for as long as Southwest – so one may expect its

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[57] Virgin Blue Press Release, "Virgin Blue's Going Boeing $5.4-Billion For Up To 50 New Aircraft," January 16, 2003.

[58] Morrison at 239-256. Morrison defines actual competitors in three ways: (1) service on the same route; (2) service originating from the same airport and terminating at an airport near to one served by the route (e.g., flights into Dulles Airport in Washington, DC versus flights into National Airport in Washington, DC); (3) service originating from a "near" airport and terminating at a "near" airport. Morrison defines potential competitors in five ways: (1) provides service at both airports, but does not provide service between the cities; (2) provides service at one airport in one city and service a "near" airport in the other city, but does not provide service between the cities; (3) provides service at a "near" airport in one city and a "near" airport in the other city, but does not provide service between the cities; (4) provides service at one airport, but does not provide service to the other city; and (5) provides service at a "near" airport in one city, but does not provide service to the other city.

[59] See Steven Morrison and Cliff Winston, *The Evolution of the Airline Industry* (The Brookings Institution: Washington, DC, 1995) at 143.

competitive impact to be less significant than Southwest's in the United States – the evidence suggests that the entry of Virgin Blue results in a reduction in market prices.[60] For example, Virgin Blue has obtained a market share on the routes it serves of more than 32 percent in less than three years,[61] and claims to have increased its market share by 10 percent in the last 12 months alone.[62] Such a dramatic increase in market share is consistent with Virgin Blue imposing an important competitive constraint on the incumbent carrier. Indeed, Virgin Blue itself has stated that it "would be able to offer an effective competitive restraint on the Proposed Alliance even though it may have a significantly smaller market share than the Proposed Alliance."[63]

53.   It is also clear that Virgin Blue's pattern of behavior suggests that it would capitalize on any attempt by the proposed alliance partners to raise prices or reduce capacity. Just recently, Virgin Blue entered the Brisbane-Whitsundays route because Qantas decided to reduce capacity on the route.[64] Furthermore, Virgin Blue has stated that evidence of supracompetitive prices by market participants is a "source of encouragement for Virgin Blue."[65] Virgin Blue would therefore have the incentive to enter the trans-Tasman routes, if the proposed alliance attempted to raise prices or reduce capacity.

54.   The question then is whether the potential competitors face barriers to entry that would inhibit their ability or incentive to enter and compete on the trans-Tasman routes. The NZCC Draft Determination identifies a number of factors that could serve as barriers to entry. These factors include capital requirements; regulatory requirements; incumbent response; scale and scope of entry; access to facilities; access to travel distribution services; access to feeder services; access to Computer Reservation Systems ("CRSs"); loyalty schemes; brand awareness; size of market; availability of pilots; and availability of aircraft.[66]

55.   Before we consider each of these factors for entry on the trans-Tasman routes, it is important to emphasize that a market test exists today that suggests that there are not barriers to entry on the trans-Tasman routes. Specifically, on June 9th, Emirates Airlines announced that it was initiating service from Sydney and Melbourne to Auckland.[67] As of August 1st, it would fly a combined 14 flights per week in each direction across the Tasman. As of October 26th, Emirates Airlines announced that it would fly seven flights per week in each direction from Brisbane to Auckland. Royal Brunei Airlines announced recently that it was entering the Auckland to Brisbane route.[68]

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[60] See NECG Report at 52-53 and Virgin Blue, Submission in Response to Draft Determination, at 5.1-5.8.
[61] Virgin Blue, Submission in Response to Draft Determination, at 4.6.
[62] See Submission by Applicant on Draft Determination, Chapter 3 at 11.
[63] Virgin Blue, Submission in Response to Draft Determination, at 5.8.
[64] Virgin Blue Press Release, "By Popular Demand-More Flight to the Whitsundays Daily Direct Flights from Brisbane to Whitsunday Coast," June 27, 2003.
[65] 1ZB News Report, May 31, 2002.
[66] Draft Determination at ¶ 331.
[67] Emirates Airlines Press Release, "Emirates to Fly to New Zealand from August 1," June 9, 2003. See http://www.emirates.com/AboutEmirates/EmiratesNews/news_20363.asp?ComponentID=20.
[68] See http://www.bruneiair.com/news/260603.html.

Such entry by Emirates and Royal Brunei suggests that most, if not all, of the conceivable barriers to entry identified by the NZCC are not significant enough to stop entry by new competitors.

56.   We will now consider each barrier to entry identified by the NZCC. In the context of analyzing the ease of entry or expansion, we focus on whether the purported factor serves as a barrier to entry to Virgin Blue on all of the trans-Tasman routes and fifth freedom carriers on the trans-Tasman routes to Auckland.

Capital Requirements

57.   The first supposed barrier to entry considered by the NZCC is the capital requirements associated with entry. The NZCC appears to base its judgment that the extent of capital requirements represents a barrier to entry on the capital required for *de-novo* entry. But the entry that is most likely to occur in a timely and sufficient manner is not from a *de-novo* entrant, but from an existing market participant. It is widely known that capital requirements to expand an existing network are much smaller than the requirements to start a network *de-novo*. For potential entrants on the Tasman routes, it appears implausible to us that capital requirements are a barrier to entry. Virgin Blue recently announced that it has a "war chest" of money.[69] Virgin Blue is also backed by a publicly traded company (Patrick Corp.) and one of the world's wealthiest men (Richard Branson).[70] Moreover, Virgin Blue announced that it was going to spend $5.4 billion to purchase up to 50 Boeing 737s over the next decade.[71] We have not seen any evidence that the fifth freedom carriers that could serve the trans-Tasman routes to Auckland face any kind of shortfall in capital requirements; in fact, if anything, many of the fifth freedom carriers have received financial support from the public sector, which suggests that they do not face any real barrier to obtaining the capital necessary to serve the trans-Tasman routes to Auckland.[72] Given the available facts, we do not believe that capital requirements are a barrier to entry on the Tasman routes.

Regulatory Requirements

58.   The second supposed barrier to entry considered by the NZCC is the regulatory requirements associated with entry. The NZCC does not appear to believe that regulatory requirements serve as a barrier to entry. We agree. As we understand it, Virgin Blue has already initiated the process for obtaining a New Zealand Air Operators Certificate, and the fifth freedom carriers we identified above all have unexercised rights to enter the Tasman routes. Since these airlines do not face high regulatory requirements for entry, such entry is more likely to occur on a timely basis.

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[69] Virgin Blue Press Release, "Virgin Blue Continues to Soar," May 15, 2003.
[70] In 2003, *Forbes* magazine ranked Richard Branson as the world's 236th wealthiest person, worth an estimated $1.7 billion. See http://www.forbes.com
[71] Virgin Blue Press Release, "Virgin Blue's Going Boeing $5.4-Billion For Up To 50 New Aircraft," January 16, 2003.
[72] See, for example, Network Economics Consulting Group, "Qantas Airways and British Airways Joint Services Agreement," May 2003 at 85-86.

<u>Incumbent Response</u>

59.   The third supposed barrier to entry considered by the NZCC is the response of incumbents to entry. The NZCC argues that it considers incumbent response to be a barrier to entry to the Tasman routes.[73]   We believe that the NZCC concern is unwarranted As a starting point, the concern about incumbent response assumes market power; if market power does not exist, concerns about incumbent response are attenuated. But even if the incumbent has market power, our analysis shows that incumbent response is unlikely to be a barrier to entry on the trans-Tasman routes. As Dr. Willig described in his initial report, it does not appear as though incumbent response has served as a deterrent to effective entry by Virgin Blue in Australia. For example, Virgin Blue has entered more than 30 routes in the past three years, which raises questions about whether an incumbent with a significant market share is able to deter entry through its own actions; in Australia, Qantas has (and had) a high market share.[74]

60.   Economic theory suggests that an incumbent will predate against an entrant if it believes that it can "recoup" its losses once the entrant has exited the market. If the incumbent does not believe that it can force the entrant out of the market, it will not have the incentive to engage in predatory behavior. As noted above, Virgin Blue appears to have "deep pockets" and a "war chest" of cash. Such financial strength reduces – if not eliminates – the incentives for an incumbent carrier to price in a predatory fashion because it cannot anticipate enjoying a recoupment phase after the phase of pricing at a sacrifice, below cost.

61.   The incentive for the incumbent carrier to engage in predatory behavior is further attenuated because Virgin Blue appears to have a lower-cost structure than either Qantas or Air New Zealand.[75] If the proposed alliance were to price below its marginal costs, its prices may still be above Virgin Blue's marginal costs. In such a scenario, the proposed alliance would suffer from lost profits, while Virgin Blue would continue to make money, which means that the proposed alliance's effort to drive Virgin Blue out of the market would likely fail.

62.   For similar reasons, incumbent response is unlikely to deter entry by fifth freedom carriers on the trans-Tasman routes to Auckland. (As noted above, two fifth freedom airlines have announced entry on the Tasman routes in recent months. These announcements raise serious questions about whether incumbent response serves as a barrier to entry.) Our conclusion, therefore, is that incumbent response is unlikely to serve as a barrier to entry on the Tasman routes.

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[73] Draft Determination at ¶ 483.

[74] It is important to note that Virgin Blue entered nine routes prior to Ansett exiting the Australian market in September 2001, and Virgin Blue continues to expand rapidly; it entered 14 routes between July 2002 and June 2003.

[75] See Draft Determination at ¶ 137 and ¶ 636.

63.   The fourth supposed barrier to entry considered by the NZCC is the need for the potential entrant to acquire scale and scope in order to provide services efficiently. Just as with capital requirements, the scale and scope of entry may be an issue for a *de-novo* entrant, but it is unlikely to be an issue for any of the potential competitors that we consider. For example, Virgin Blue already has an established network of routes and has achieved the necessary scale and scope to achieve a high level of profitability.[76] Therefore, entry for Virgin Blue is incremental, not *de-novo*. Fifth freedom carriers are in a similar position as Virgin Blue: Entry is incremental, not *de-novo.*

64.   Moreover, we understand that three fifth freedom carriers currently could commence trans-Tasman service to Auckland by using aircraft that sit idle on the ground in Sydney, Melbourne, and Brisbane for at least 8½ hours. For example, we understand that United Airlines has a Boeing 747-400 that sits on the ground in Sydney for nine hours, which is enough time for United to offer service from Sydney to Auckland, if the appropriate incentive were present for such service. For these fifth freedom carriers, scale and scope of entry are unlikely to be an issue on a number of the trans-Tasman routes. Therefore, our analysis suggests that scale and scope of entry are not barriers to entry for Virgin Blue and fifth freedom carriers on the trans-Tasman routes to Auckland.

Access to Facilities

65.   The fifth supposed barrier to entry considered by the NZCC is access to facilities. In its Draft Determination, the NZCC concluded that access to facilities is a barrier to entry at Auckland and Sydney airports.[77] Since the NZCC has concluded that access to facilities is not an issue at the other gateway airports (e.g., Wellington Airport stated that "there are no apparent major airport facilities constraints for new market entrants at Wellington Airport"[78] and Christchurch Airport stated that it has "facilities available for new entrants. It has retained some counter space in its domestic terminal and there is also space in its international terminal."[79]), we will focus our analysis on the Auckland and Sydney airports.

66.   We believe that the NZCC's conclusion is contradicted by a variety of facts. First, the entry of Emirates and Royal Brunei on the trans-Tasman routes suggests that access to facilities was not a barrier to their entry. In particular, the two airlines will offer 25 weekly flights <u>combined</u> into Auckland from Australia, which raises serious questions about the NZCC's conclusion that access to facilities at Auckland Airport is a barrier to entry. If anything, such entry suggests that access to facilities is <u>not</u> a barrier to entry.   Second, the applicants have committed to providing access to "gates, slots,

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[76] Virgin Blue Press Release, "Virgin Blue Continues to Soar," May 15, 2003.
[77] Draft Determination ¶ at 487.
[78] Wellington International Airport Limited, Submission to the Commerce Commission, February 14, 2003 at 46.
[79] Christchurch International Airport Limited, Cross Submission to Commerce Commission in Relation to Submissions by Applicants, July 18, 2003 at 3.

counter facilities, maintenance, and ground handling" on the Tasman routes.[80] Since the applicants have committed to such an undertaking, it appears inappropriate for the NZCC to consider access to facilities as a constraint on a potential competitor entering the Tasman routes. Finally, many potential competitors already have facilities at Sydney Airport. Among those fifth freedom carriers that have not exercised their rights to provide Tasman service, nearly half already have facilities at Sydney Airport.[81] For these reasons, it does not appear to us that access to facilities at Auckland and Sydney airports is a barrier to entry on the Tasman routes.

Access to Travel Distribution Services

67.   The sixth supposed barrier to entry considered by the NZCC is access to travel distribution services. Access to travel distribution services may be more of an issue to a *de-novo* entrant than an existing market participant, especially a Value-Based Airline ("VBA"). For example, travel distribution services do not appear to be an important component of Virgin Blue's business model. Virgin Blue has stated that it sells 90 percent of its tickets via the Internet, which suggests that access to travel distribution services would not be a barrier to entry for Virgin Blue.[82] Fifth freedom carriers already have relationships with travel distribution providers, a fact which suggests that such access will be unlikely to act as a barrier to entry for such carriers. Our review of the evidence, therefore, suggests that access to travel distribution services is unlikely to constitute a barrier to entry on the Tasman routes.

Access to Feeder Services

68.   The seventh supposed barrier to entry considered by the NZCC is access to feeder services. While the NZCC does not appear to believe that this is a barrier to entry on the Tasman routes, it is an important enough issue that we believe a review of the evidence informs the likelihood that the potential competitors will have the incentive to enter the Tasman routes. In order to consider the impact of feed on the incentive to enter, we obtained data from the applicants on the percentage of passengers that are "local" travelers; that is, the passengers are flying from City A to City B, and not connecting to (or from) City C. On these routes, the percentage of local traffic averaged roughly 70 percent (weighted by available seats). On no route is the percentage of local traffic less than 59 percent, and on half the routes, the percentage is above 75 percent. These results suggest that even potential entrants who limited themselves to serving only one of the Tasman routes would still have access to a substantial portion (at least 59 percent, and on average, 70 percent) of the traffic on the route. In our experience, access to such a high percentage of the market is unlikely to act as a barrier to entry.

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[80] Air New Zealand Press Release, "Air New Zealand and Qantas Offer Substantial Concessions to Australian Competition Regulator," May 13, 2003

[81] See http://www.sydneyairport.com.au/Sydney+Airport/airlines/international+airlines/International+Airlines.htm

[82] Virgin Blue, Submission in Response to Applications for Authorisation of the Proposed Qantas/Air New Zealand/Air Pacific Alliance, February 12, 2003 at 24

69.   If anything, however, these figures understate the percentage of the market that is available for a potential entrant. The reason is that neither Virgin Blue nor the fifth freedom carriers would serve only a single route – both would have access to feed from their own networks. For example, Virgin Blue provides non-stop service from 10 Australian cities to Brisbane, from 13 Australian cities to Sydney, and from 10 cities to Melbourne. Virgin Blue could also receive feed from its partner, Regional Express ("REX"); in June 2003, Virgin Blue and REX entered an agreement to provide "regional travelers with a convenient and cost effective method of flying" from regional centers to Melbourne and Sydney.[83] Therefore, our analysis confirms the NZCC conclusion that on the Tasman routes, access to feed is unlikely to constitute a barrier to entry.

Access to Computer Reservation Systems

70.   The eighth supposed barrier to entry considered by the NZCC is access to CRS. The NZCC does not appear to consider access to CRS a barrier to entry on the Tasman routes. We have been exposed to no data or information in this proceeding that would contradict this element of the NZCC analysis.

Loyalty Schemes and Brand Awareness

71.   The ninth and tenth supposed barriers to entry considered by the NZCC are loyalty schemes and brand awareness. The NZCC appears to believe that loyalty schemes are a barrier to entry, but brand reputation is unlikely to be a barrier to entry for "Virgin Blue and fifth freedom carriers as they already have established brands."[84] While loyalty schemes are certainly important to some passengers, we have not been exposed to any evidence that suggests that the percentage of "loyal" passengers on the Tasman routes is so great that it would serve as a barrier to entry. Indeed, the NZCC only cites evidence that "approximately 35% of passengers traveling on the Tasman routes are business passengers."[85] From this statistic, the NZCC concludes that the "lack of a loyalty scheme could be an issue."[86] We respectfully disagree.

72.   According to NECG, "only 29% of all Qantas passengers on Tasman flights in the year ending May 2002 even participated in Qantas's frequent flyer program. Only about one-third of these program members (or about 10 per cent of all passengers) had achieved any of the 'status' levels associated with moderate levels of participation. For Air New Zealand over the same routes and time period, the results were similar, with only about 21% of all passengers participants in the airlines' frequent flyer program and only about one-third of participants having achieved any but the lowest 'status' level in that program."[87] Such evidence suggests that loyalty programs will be unlikely to serve as a barrier to entry on the Tasman routes.

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[83] Virgin Blue Press Release, "Regional Flyers to Benefit from Virgin Blue & REX Deal," June 10, 2003.
[84] Draft Determination at ¶ 491.
[85] Draft Determination at ¶ 488.
[86] Draft Determination at ¶ 488.
[87] NECG Report at 75 (footnotes omitted).

73.   It is also important to emphasize that low-cost carriers (such as Virgin Blue) have increasingly attracted business passengers. *Business Week* recently wrote that "business travelers, who represent two-thirds of any airline's profits, increasingly resort to the low-cost carriers."[88] An estimated 40 percent of Virgin Blue's revenues come from corporate travelers.[89] Virgin Blue has also stated that its corporate client list has grown "substantially" since 2002, when it had 167 corporate clients.[90] Indeed, Virgin Blue has stated that it "continues to focus on growing its share of the lucrative corporate travel market" and that its research "shows that the business edge for most people is friendly staff, high frequency, on-time performance and fares that don't damage your bottom line. The corporate traveler is abandoning box lunches and older aircraft, for an airline that has the youngest fleet in the world and the best on-time performance in Australia." A recent survey of business travelers by the consultancy Accenture found that 60 percent of respondents have used low-cost carriers for business trips in the past six months – and 94 percent of that group stated that their use of VBAs will either increase or stay the same in the next six months.[91] The increasing use of VBAs by business travelers suggests that loyalty schemes and brand reputation are unlikely to act as barriers to entry on the Tasman routes.

Size of Market

74.   The eleventh supposed barrier to entry considered by the NZCC is the size of the market. The NZCC has taken the view that the presence of Freedom Air – Air New Zealand's low-cost subsidiary – on a number of Tasman routes has "already taken up some of the potential for growth in the Tasman market, thus limiting the potential for growth by an entrant."[92] The NZCC does not explain how there is a limit on the potential for growth by an entrant, yet two airlines have decided to enter the Tasman market in recent months. The key question with regard to this supposed barrier to entry is whether there is room for another carrier to enter *if the proposed alliance partners tried to raise prices significantly*. We have been exposed to no evidence that would suggest that these routes are too thin for another competitor if one assumed that the alliance partners tried to raise prices. Indeed, on two of the most important trans-Tasman routes there are already a number of competitors; on one route, there are as many as *six* competitors. It seems as though from such evidence that the size of the market is not a barrier to entry on the Tasman routes.

Availability of Pilots and Aircraft

75.   The twelfth and thirteenth supposed barriers to entry considered by the NZCC are the availability of pilots and aircraft. In its Draft Determination, the NZCC

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[88] Charles Haddad and Wendy Zellner, "Delta Gets Down and Dirty with the Discounters," *Business Week*, October 28, 2002.

[89] Mark Todd, "Air NZ Unwilling to Forsake Its Freedom for Qantas," *Sydney Morning Herald,* April 14, 2003.

[90] *Ibid.*

[91] Accenture Press Release, "Near-Term Growth in Business Travel Expected, Despite Global Health, Economic and Political Issues, Accenture Survey Finds," June 4, 2003.

[92] Draft Determination at ¶ 494.

has concluded that neither the availability of pilots nor the availability of aircraft formed a barrier to entry. We have been exposed to no evidence that suggests that the NZCC conclusion on this element of its analysis is incorrect.

Summary

76.   In summary, our analysis suggests that, even though the proposed alliance will lead to an increase in concentration on the Tasman routes, the likelihood and timeliness of entry will counter any attempt by the applicants to raise prices profitably. This finding stems from our conclusion that Virgin Blue or the fifth freedom carriers with unexercised rights to the Tasman routes do not face any substantial barriers to entry.

B. The Domestic New Zealand Region

77.   Our analysis has identified 11 routes within the domestic New Zealand region to examine. Air New Zealand offers service on all of these routes. Qantas offers service on two routes with its own planes and on the other routes via its code-share relationship with Origin Pacific. Just as the trans-Tasman routes are susceptible superficially to a loss of competition, the domestic New Zealand routes are also superficially susceptible to the loss of competitive pressures following the alliance, *assuming no expansion or entry by any potential competitor, either unconditionally or in response to any attempt to exercise market power.*

78.   We assume for our analysis that the current code-sharing arrangement between Qantas and Origin Pacific would be terminated as soon as the proposed alliance were approved. This assumption is consistent with Origin Pacific's expressed viewpoint.[93]

79.   Our analysis suggests that there are two potential competitors on the domestic New Zealand routes: Virgin Blue and Origin Pacific. As noted above, Virgin Blue has stated that "it has taken steps to establish operations on the trans Tasman and *domestic routes* and is now confident that it will be able to *commence operations relatively quickly.*"[94] Indeed, Virgin Blue has "long identified a desire to offer services across the Tasman and *on New Zealand domestic routes*. In general Virgin Blue considers that the trans Tasman and *New Zealand domestic routes* offer a substantial opportunity to Virgin Blue to enter."[95] Furthermore, as noted above, Virgin Blue has indicated that it believes that it could apply to the domestic New Zealand market the same principle of serving any city that has a population of greater than 50,000. If Virgin Blue were to apply such a rule to the domestic New Zealand market, it would serve a number of domestic New Zealand routes, including, but not limited to, Auckland-

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[93] Origin Pacific, Submission of Origin Pacific Airways Limited to the Commerce Commission, February 14, 2003 at ¶ 23.
[94] Virgin Blue, Cross Submission in Response to Draft Determination, July 21, 2003 at 4 (emphasis added).
[95] Virgin Blue, Submission in Response to Applications for Authorisation of the Proposed Qantas/Air New Zealand/Air Pacific Alliance, February 12, 2003 at 15 (emphasis added).

Wellington, Auckland-Christchurch, Wellington-Christchurch, Auckland-Dunedin, Wellington-Dunedin, and Christchurch-Dunedin.

Table 4: Domestic New Zealand Routes							
Origination	*Destination*	*# of Carriers*	*Seats per day*	*Freq. per day*	*NZ seats*	*QF seats*	*NZ+ QF seats*	*Carriers on route*
Auckland	Wellington	2	2,993	24	65%	35%	100%	• Air New Zealand • Qantas
Auckland	Christchurch	2	2,932	22	64%	36%	100%	• Air New Zealand • Qantas
Christchurch	Wellington	3	1,914	24	78%	15%	93%	• Air New Zealand • Qantas* • Origin Pacific
Christchurch	Queenstown	3	593	7	68%	32%	100%	• Air New Zealand • Qantas*
Nelson	Wellington	3	573	21	73%	1%	74%	• Air New Zealand • Qantas* • Origin Pacific
Christchurch	Dunedin	3	446	9	76%	8%	84%	• Air New Zealand • Qantas* • Origin Pacific
Christchurch	Invercargill	3	342	7	83%	2%	85%	• Air New Zealand • Qantas* • Origin Pacific
Hamilton	Wellington	3	333	7	81%	2%	83%	• Air New Zealand • Qantas* • Origin Pacific
Auckland	Nelson	3	304	10	74%	1%	75%	• Air New Zealand • Qantas* • Origin Pacific
Christchurch	Rotorua	3	298	5	79%	21%	100%	• Air New Zealand • Qantas*
Christchurch	Nelson	3	276	10	64%	1%	65%	• Air New Zealand • Qantas* • Origin Pacific

* On these routes, Qantas code shares with Origin Pacific.

80.   To test the validity of Virgin Blue's "general rule," we analyzed the population of each city that Virgin Blue serves in Australia. Currently, Virgin Blue serves only a few cities with populations less than 50,000, such as Broome and Alice Springs. The rest of the cities – roughly four-fifths of the cities served by Virgin Blue – have populations in excess of 50,000 people, which is consistent with Virgin Blue's "general rule."

81.   But a critic of the proposed alliance may argue that Virgin Blue serves these cities from large population centers, such as Sydney (which has a population of more than four million people). Therefore, we also examined what was the smallest underline combined population of a city-pair route served non-stop by Virgin Blue. Our analysis

suggests that the smallest combined population of any city-pair route served by Virgin Blue is from Adelaide to Broome. The population of the cities on that route total roughly 1.1 million. Extending Virgin Blue's general rule to include the more specific rule that the combined cities must have more than 1.1 million people would suggest that Virgin Blue would enter at least three major domestic New Zealand routes: Auckland-Wellington (combined population of roughly 1.4 million), Auckland-Christchurch (combined population of roughly 1.4 million), and Auckland-Dunedin (combined population of roughly 1.2 million).[96] The applicants have undertaken a similar analysis, which has produced similar results. Their examination of Virgin Blue's history suggests that the average size of the markets Virgin Blue has decided to serve in Australia (as measured by passengers per day) would imply that it would be willing to enter each of the main trunk routes in New Zealand, including Auckland-Wellington, Auckland-Christchurch, and Wellington-Christchurch.[97]

82.   An examination of Virgin Blue's entry in Australia shows that Virgin Blue has used entry into major markets as a launching pad for service to other markets. Indeed, Virgin Blue's first routes established links between four major Australian cities (Brisbane, Adelaide, Melbourne, and Sydney). Since then, Virgin Blue has used each of these cities as a hub to serve other cities. For example, in 2001, the year after they initiated service, Virgin Blue added fourteen routes. Three of the fourteen further interconnected the four main cities: Sydney-Adelaide, Melbourne-Adelaide, and the high demand Melbourne-Sydney. Once these routes were established, each of the four cities had a direct connection to the other. The other eleven routes added in 2001 were extensions of the Virgin Blue network, extensions away from their core cities and into smaller markets. Such a pattern of network expansion suggests that Virgin Blue would likely expand into the major New Zealand trunk routes, after it had entered the trans-Tasman market.

83.   Another potential competitor on the domestic New Zealand routes is Origin Pacific. Origin Pacific currently operates more than 100 flights each weekday within the domestic New Zealand market. These flights originate from 14 different destinations, including each of the major cities in New Zealand (Auckland, Wellington, and Christchurch).[98] The key question is whether Origin Pacific can serve as an effective competitor versus the proposed alliance within the domestic New Zealand market. Our analysis suggests that it likely would.

84.   While Origin Pacific may not serve as an effective competitor on the main trunk routes departing from Auckland, Origin Pacific currently serves the Wellington-Christchurch route. Indeed, Origin Pacific currently serves this route with roughly 1,920 seats of capacity on its own flights and roughly 4,064 seats of capacity on the flights it

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[96] Such an analysis would also show that Virgin Blue would enter Auckland to Hamilton, Auckland to Napier/Hastings, Auckland to Tauranga, Auckland to Palmerston North, Auckland to Rotorua, and Auckland to Nelson.

[97] See Submission by Applicant on Draft Determination, Chapter 3 at 11.

[98] See Draft Determination at ¶ 441.

code shares with Qantas.[99] If Origin Pacific offered 6,000 seats of capacity following the alliance, it would have a market share (based on available seats) of more than 20 percent, which means that Origin Pacific – if it can offer 6,000 seats of capacity – would likely act as a significant competitive constraint. The NZCC notes that when Origin Pacific increased capacity on the Wellington-Christchurch route, Air New Zealand lowered prices for a substantial percentage of its seats. Such a competitive reaction by Air New Zealand is strong evidence that Origin Pacific imposes some significant degree of competitive pressure on Air New Zealand on smaller domestic New Zealand markets. We have been exposed to no evidence that would suggest that Origin Pacific would be a substantially less effective competitor vis-à-vis the proposed alliance than it is vis-à-vis Air New Zealand on smaller domestic New Zealand routes.

85.   As we identified above, the key question is whether Virgin Blue and Origin Pacific would have the *ability* to enter, or expand in, the domestic New Zealand market, if the proposed alliance partners were to attempt to raise prices significantly. Our review of the evidence suggests that neither airline would face the kinds of barriers to entry or expansion that would inhibit their ability to enter or expand on domestic New Zealand routes.

86.   For the same reasons delineated above, regulatory requirements; access to facilities; scale and scope of entry; access to travel distribution services; access to Computer Reservation Systems ("CRSs"); loyalty schemes; brand awareness; availability of pilots; size of market; and availability of aircraft are not barriers to entry in the domestic New Zealand market.

87.   We therefore consider capital requirements; incumbent response; and access to feeder services as barriers to entry. In examining each of these purported barriers to entry, we consider whether they are barriers to entry on the main trunk routes or the provincial routes.

Capital Requirements

88.   As discussed above, capital requirements are not a barrier to entry for Virgin Blue. As Origin Pacific acknowledges, capital is not a substantial barrier to entry for service on the provincial routes.[100] Therefore, capital requirements are unlikely to be

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[99] In the domestic New Zealand market, Qantas has chosen to extend its network by entering a code-sharing relationship with Origin Pacific. As a result of their code-sharing relationship, Qantas has the sole responsibility for selling all seats (between 62 and 64 seats, depending on the flight) on certain Origin Pacific flights on the Christchurch-Queensland, Christchurch-Rotorua, and Christchurch-Wellington routes. These are known as the "ATR Codeshare Services." Origin Pacific only operates flights on the ATR Codeshare Services, they do not sell any seats. Qantas has also arranged for fixed blocks of between five and seventeen seats on other Origin Pacific flights. On these flights, however, the blocks make up only a portion of the seats available. Origin Pacific both operates the flights and sells additional seats on these code-share routes. The additional code-share routes (with the number of seats in the block per flight) are: Auckland-Nelson (5), Christchurch-Dunedin (17), Christchurch-Invercargill (10), Christchurch-Nelson (5), Christchurch-Wellington (9), Wellington-Hamilton (6), and Wellington-Nelson (10).
[100] Origin Pacific, Submission of Origin Pacific Airways Limited to the Commerce Commission, February 14, 2003 at ¶ 29.

a barrier to Virgin Blue serving the main trunk routes and unlikely to be a barrier to Origin Pacific continuing to serve the provincial routes.

Incumbent Response

89.   As discussed above, incumbent response is not a barrier to entry for Virgin Blue on the main New Zealand trunk routes. Incumbent response is also unlikely to be a barrier to entry for Origin Pacific on the smaller New Zealand markets. First, Origin Pacific currently operates on 20 routes.[101] Its ability to enter and serve these routes suggests that Air New Zealand has not been able to engage in predatory pricing to induce Origin Pacific to exit these routes. Second, as the NZCC noted, Origin Pacific increased capacity on the Wellington-Christchurch route, and Air New Zealand lowered prices in response.[102] Yet, Origin Pacific has not exited the market. Such a competitive dynamic suggests that consumers are better off because the increased competition between Origin Pacific and Air New Zealand has resulted in lower prices – not a loss of a competitor. Third, if Origin Pacific were to enter into a code-sharing arrangement with Virgin Blue (see discussion below), it would be even more insulated from the potential effects of any potential predatory behavior by the proposed alliance (which makes such behavior even less likely). For these reasons, we do not believe that incumbent response is a barrier to entry for Virgin Blue on the main trunk routes and for Origin Pacific on the smaller New Zealand routes.

Access to Feeder Services
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90.   Access to feed does not appear to be a barrier to Origin Pacific serving as an effective competitor: roughly 66 percent of the passengers are local on the Wellington-Christchurch route. Moreover, Origin Pacific would have access to its own feed from smaller airports around New Zealand; in other words, if someone wanted to fly from Dunedin to Wellington (via Christchurch), Origin Pacific could compete for that passenger with the alliance partners. And since the flight is less than an hour from Wellington to Christchurch, a significant share of passengers would be unlikely to shy away from flying on a regional aircraft. Since Origin Pacific is already on the route and since Origin Pacific flies some larger regional aircraft (such as the ATR, which has 64 seats), we believe that Origin Pacific would impose some significant competitive constraint on the proposed alliance on the Wellington-Christchurch route.

91.   Origin Pacific would also be well positioned to compete with the proposed alliance on the provincial routes. On many provincial routes, a significant percentage of the passengers are local; for example, 68 percent of the Wellington-Dunedin passengers are local. On the routes in which local traffic is a significant percentage, concerns about the role of feed as a barrier to entry are misguided.

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[101] Origin Pacific flies 20 routes on which it sells seats, and two additional routes on which Qantas is responsible for selling all of the seats.
[102] Draft Determination at ¶ 361.

92.   To be sure, though, there are routes for which feed is important. The data available to us suggest that one such route is Christchurch to Queenstown, on which only 35 percent of passengers are local, which suggests that access to feed would be important for that route. But it is far from evident that the proposed alliance would actually harm competition on this route – or the other limited number of similar routes with a low percentage of local traffic. There would be no barriers to Origin Pacific entering into a code-sharing arrangement with an inter-regional carrier, such as Virgin Blue. Virgin Blue's recent agreement with REX suggests that it is willing to expand its network through arrangements with regional carriers, and Origin Pacific's arrangement with Qantas suggests that Origin Pacific understands the benefits of feed. A code-sharing relationship between a carrier serving the larger trunk routes (Virgin Blue) and a carrier serving the smaller regional routes (Origin Pacific) would create a network of services that could compete with Air New Zealand and Qantas throughout the Tasman and domestic New Zealand region.

Summary

93.   In summary, our analysis suggests that, even though the proposed alliance would lead to an increase in concentration among incumbents on the domestic New Zealand routes, the likelihood and timeliness of entry would likely counter any attempt by the applicants to raise prices noncompetitively.

V.   Conclusions

94.   The proposed alliance would cause an increase in concentration among incumbents on a number of routes in the Tasman and domestic New Zealand regions. But, as we have shown in the previous section, the potential for timely and sufficient entry on the Tasman and domestic New Zealand routes suggests that the proposed alliance's prices will continue to be constrained, and consumers will not suffer significant harm from the loss of competitive pressures that result from the proposed alliance.   Our analysis shows that the barriers to entry that have been identified by the NZCC are not significant enough to deter potential competitors from acting as protectors of competition.

95.   Our analysis also shows that the proposed alliance would produce significantly more gross consumer welfare benefits than the NZCC analysis shows because the NZCC has understated the consumer benefits from improved scheduling and new flight options.[103]   The NZCC estimate of the benefits of the proposed alliance assumes that improved scheduling produces only small benefits (in the range of $360,000 per year), while new direct flights produce no benefits whatsoever. Given all of the potential improvements in scheduling and the new flight options (both non-stop and online), it the NZCC analysis appears to have significantly understated the gross benefits of the proposed alliance from these factors.

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[103] In determining the gross benefits of the proposed alliance, the consumer benefits we identify should be added to the other benefits identified by the NZCC and the applicants, such as cost savings and tourism benefits.

96.   Since the NZCC appears to have understated the gross benefits of the proposed alliance, we do not believe that the NZCC has to date evaluated appropriately the pros and cons of the proposed alliance.

EXHIBIT A : CURRICULUM VITÆ

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Woodrow Wilson School of Public and International Affairs,
Princeton University, 1979

Positions
Present Position – President, Managing Director,
Competition Policy Associates Inc.

1994: Principal, Economists Incorporated

1990: Assistant Chief, Economic Regulatory Section, Economic Analysis Group, Antitrust Division, U.S. Department of Justice

1987: Senior Economist, Economists Incorporated

1986: Director of Analytical Resources Unit, Economic Analysis Group, Antitrust Division, U.S. Department of Justice

1985: Economist, Economic Analysis Group, Antitrust Division, U.S. Department of Justice

1982-1985: Economist, Financial Structure Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System

1979-1982: Economist, Economic Policy Office, Antitrust Division, U.S. Department of Justice

Positions (continued)	1976-1977: Research Associate, Energy Economics Group, Arthur D. Little, Inc.
Teaching Experience	1984: Adjunct Lecturer, Institute of Policy Sciences, Duke University
	1984-1989: Executive Education for Top State Managers, conducted by The Institute of Policy Sciences, Duke University
	1983: Lecturer, Board of Governors of the Federal Reserve System and American Institute of Banking
	1979: Teaching Assistant, Princeton University
Testimony	Investigation into the Competitive Marketing of Air Transportation, Civil Aeronautics Board
	Arbitration Between First Texas Savings Association and Financial Interchange Network
	In Re "Apollo" Air Passenger Computer Reservation System (CRS) MDL DKT. No. 760 M-21-49-MP
	U.S. v. Ivaco, Inc.; Canron, Inc.; and Jackson Jordan, Inc.
	Consent Order Proceeding before the Competition Tribunal, Canada Between The Director of Investigation and Research and Air Canada, Air Canada Services, Inc., PWA Corporation, Canadian Airlines International, and the Gemini Group Automated Distribution Systems Inc.
	In the Matter of an Application by the Director of Investigation and Research under Section 79 of the Competition Act and in the Matter of certain practices by the D & B Companies of Canada Ltd. (Respondent), before the Competition Tribunal
	Beville v. Curry, et al.; Comanche County District Court, Case No. CJ-95-115
	U.S. v. Northshore Health System, et al.
	Testimony before Committee on Banking and Financial Services, U.S. House of Representatives (April 29, 1998)

Testimony (continued)	*Easy Gardener, Inc. v. Dalen Products, Inc.*
	Trigen – Oklahoma City Energy Corporation v. Oklahoma Gas & Electric Company
	State of California v. Sutter Health; Alta Bates; and Summit Medical Center
	Ernest T. Smith, III et al. v. N. H. Department of Revenue Administration, et al.
	St. Luke's Hospital v. California Pacific Medical Center; Sutter Health System
	In Re: Cigarette Antitrust Litigation and related cases, *Holiday Wholesale Grocery Co., et al. v. Philip Morris Inc., et al.*, MDL Docket No.: 1342 Civil Action No.: 1:00-cv-0447-JOF and *Artemio Del Serrone, Steven Ren, Heather Snay, Jon Ren, Keith Pine, and Bill Reed, on behalf of themselves and all others similarly situated v. Philip Morris Inc., R.J. Reynolds Tobacco Co., Brown & Williamson Tobacco Corp., Lorillard Tobacco Co., Liggett Group, Inc., and Brooke Group, Ltd.,* Case No. 00-004035 CZ, State of Michigan in the Circuit Court for the County of Wayne
	In Re: Vitamin Antitrust Litigation; Misc. No. 99-197 (THF) MDL No. 1285
Research, Publications and Presentations	Testimony at the FTC and DOJ Hearings on Healthcare and Competition and Law and Policy, February – May 2003
	Presentation before the Computer Industry an Internet Committee Program, *Antitrust Counterclaims in Patent Infringement Lawsuits*, American Bar Association – Section of Antitrust Law, Spring Meeting, April 2-4, 2003.
	"Economic Analysis of Healthcare Cost Studies Commissioned by Blue Cross Blue Shield Association," (with David Argue, Paul Godek, Barry Harris, Stephanie Mirrow), February 25, 2003.
	"U.S. Antitrust Law Developments," *Canadian Competition Record*, Winter 2002-2003.
	"What's New in Networks?" *Antitrust Litigator*, Summer 2002.

Research Publications and Presentations (continued)

"Competition and Innovation in the Context of Network Economics," at the DOJ/FTC Hearings on Competition and Intellectual Property Law in the Knowledge-Based Economy, February 20, 2002.

"U.S. Antitrust Law Developments," Canadian Competition Record, Winter 2001-2002.

"Review of Selected Economic Literature on Merger Analysis," (with Stephanie Mirrow and Su Sun), July 2001. *Perspectives on the Concepts of Time, Change, and Materiality in Antitrust Enforcement*. Section of Antitrust Law, American Bar Association, (also presented at ABA Annual Meeting, August 2001).

"U.S. Antitrust Law Developments," Canadian Competition Record, Winter 2000-2001.

"Presenting Damages Evidence" before the Practising Law Institute, Antitrust Litigation: Strategies for Success, November 30, 2000.

"Overview of B2Bs: Which Ones Raise Antitrust Issues?" before the Sixth Annual Health Care Forum, Northwestern University School of Law, November 2-3, 2000.

"An Economist's Perspective on B2Bs," Economists Ink, Fall 2000.

"How Do the New Competitor Collaboration Guidelines Address the New Economy?" before the ABA, Antitrust Section, Joint Ventures and Strategic Alliances, November 11-12, 1999.

"The Role of the Expert in Damages Analysis" before the Practicing Law Institute, November 8, 1999.

"Bank Mergers and the 1992 Merger Guidelines: The Bank of America/Security Pacific Transaction," (with Janusz Ordover), September 1999 (prepared for presentation at the 25th Anniversary of the Economics Analysis Group at the US Department of Justice). *Review of Industrial Organization, 16: 151 – 165, 2000.*

Research,
Publications and
Presentations
(continued)

"Maximizing current and future network competition in payment systems" (with Janusz Ordover) before the American Bar Association, Antitrust Section, Antitrust Issues in High-Tech Industries Workshop, Scottsdale, AZ, February 25-26, 1999.

Supplemental Analysis of "Inherent Reasonableness" Survey, prepared for HIMA (with Matthew Mercurio); February 1999.

Report on DMERC "Inherent Reasonableness" Survey, prepared for HIMA (with Matthew Mercurio); November 1998.

Summary Report: Interviews of Representative HIMA Members' Views on FASA, prepared for HIMA (with Matthew Mercurio); July 1997.

"Networks and Network Externalities: What the Antitrust Lawyer Needs to Know: Concepts and Theory," before the American Bar Association, Antitrust Section, 45th Annual Spring Meeting, Washington, DC, April 10, 1997.

"Insights into Efficiencies from Analyses of Efficiencies in Hospital and Bank Mergers," before the American Bar Association, Antitrust Law Section, Washington, DC, November 7-8, 1996.

"Issues in Managed Care "Markets," before the American Bar Association Forum on Health Law and Antitrust Law Section (with Robert B. Greenbaum), New Orleans, Louisiana, October 24-25, 1996.

"Current Merger Policy: Banking and ATM Network Mergers," *Antitrust Bulletin*, Vol. XLI, No. 2, Summer 1996.

"ATM and Bank Electronic Networks: Competitive Issues and Technological Change," for presentation at the 71st Annual WEA International Conference, June 29, 1996.

"Assessing the Implications of Kodak for Franchise Market Power Issues," before the American Bar Association, Antitrust Law Section, Spring Meeting, Washington, DC, March 27, 1996.

"Current Merger Policy: Banking and ATM Network Mergers," before the OCC Conference, November 1995.

**Research,
Publications and
Presentations
(continued)**

"Economists and Empirical Analysis in the Merger Review Process: Beyond Market Share and HHI Calculations," before the American Bar Association, Antitrust Law Section and the International Bar Association Antitrust and Trade Law Committee, Washington, DC, November 9-10, 1995.

"Network Merger Analysis," for presentation at the 43rd Annual American Bar Association, Antitrust Law Section, April 6, 1995.

"Assessing the Implications of Bank Merger Transactions after Interstate Banking and Branching Legislation: Lessons to Be Drawn From Bank Merger Cases and Analysis in the '90's," for presentation at ACI Third Annual Bank Regulation Conference, Washington, DC, March 16, 1995.

"Key Issues in Antitrust Analysis of Bank Mergers in the 1990's," for presentation at the Bank Mergers and Acquisitions Program Practicing Law Institute, September 12-13, 1994.

"Economic Issues in Network Merger Analysis," for presentation at Mergers: The Cutting Edge before the American Bar Association, 1994 Annual Meeting, New Orleans, August 9, 1994.

"Vertical Integration as a Threat to Competition Airline Computer Reservation Systems," in J. Kwoka Jr. and L. White, eds. *The Antitrust Revolution*, (2nd edition), 1993.

"The 1992 Agency Horizontal Merger Guidelines and the Department of Justice's Approach to Bank Merger Analysis," *Antitrust Bulletin*, Vol. XXXVII, No. 3, Fall 1992, (with Janusz Ordover).

"The 1992 Agency Horizontal Merger Guidelines and the Department of Justice Approach to Bank Mergers," in *Proceedings of the 28th Annual Conference on Bank Structure and Competition*, May 1992, (with Janusz Ordover).

Electronic Services Networks: *A Business and Public Policy Challenge,* Praeger, 1991, (with S. Wildman).

Research,
Publications and
Presentations
(continued)

"Computer Reservations Systems and their Network Linkages to the Airline Industry," in *Electronic Services, Networks: A Business and Public Policy Challenge*, Praeger, 1991, (with R. Noll).

"Electronic Services Networks Functions, Structures, and Public Policy" in *Electronic Services Networks: A Business and Public Policy Challenge*, Praeger, 1991, (with S. Wildman).

"New Developments in Airline Merger Analysis: Changes in the Industry and the Evidence," *Regulatory Reform*, January 1988.

"State and Federal Regulation in the Market for Corporate Control," EAG Discussion Paper, EAG 86-4, *Antitrust Bulletin*, Winter 1988, (with R. McGuckin and F. Warren-Boulton).

"Current Issues in Airline Mergers," presented at the Stanford Conference on Firm Ownership and Competition, June 19-20, 1987.

"The 1982 Department of Justice Guidelines: Applications to Banking Markets*," Issues in Bank Regulation*, Winter 1983, reprinted in T. Havrilesky, R. Schweitzer, and J. Boorman, ed. *Dynamics of Banking*, Harlan Davidson, Inc., 1985.

Department of Justice, *Report to Congress on the Computer Reservations Industry*, December 1985.

"New Rules of the Game: Modifying Bank Merger Analysis to Account for Regulatory Changes," presented at the Association of Public Policy and Management Conference, New Orleans, October 1984.

"The Determinants of Thrift Institutions' Commercial Lending Activity," *Chicago Bank Structure and Competition Compendium*, September 1983, (with C. Dunham).

"How Quickly Can Thrifts Move into Commercial Lending?" *New England Economic Review*, November/December 1983, (with C. Dunham).

Department of Justice, *Report to Congress on Competition in the Coal Industry*, March 1982.

Research, Publications and Presentations (continued)	Direct and Rebuttal Testimony in the *Investigation into the Competitive Marketing of Air Transportation*, at the Civil Aeronautics Board, August 1980.
	National Benefits/Costs of Enhanced Oil Recovery Research Final Report, Arthur D. Little, Inc., submitted to the Energy Research and Development Administration, August 1976, (with F. Mansvelt-Beck and T. Rothermal).
Other Professional Activities	Council Member, Antitrust Section, American Bar Association
	Member, American Economics Association
Past Professional Activities	Chair, Interagency Task Force on Bank Competition (at the U.S. Department of Justice, Antitrust Division)
	Chair, Financial Markets and Institutions Committee, Antitrust Section, American Bar Association

Exhibit B: List of Cities in New Zealand and Australia That Have the Potential to Receive Online Service from the Proposed Alliance

Table B1: New Zealand Airports on New Potential Online Routes
Airport
Blenheim
Gisborne
Hokitika
Kaitaia
Kerikeri
Napier
New Plymouth
Palmerston North
Taupo
Tauranga
Timaru
Wanganui
Westport
Whakatane
Whangerei

Table B2: Australia Airports on New Potential Online Routes
Airport
Adelaide
Albury
Alice Springs
Armidale
Ayers Rock
Ballina
Barcaldine
Blackall
Blackwater
Broome
Bundaberg
Burnie
Canberra
Charleville
Coffs Harbour
Darwin
Daydream Island
Devonport

Dubbo
Emerald
Gladstone
Gold Coast
Grafton
Gove
Hamilton Island
Hayman Island
Hobart
Horn Island
Kalgoorlie
Karratha
Kempsey
Launceston
Long Island
Longreach
Lord Howe Island
Mackay
Maroochydore
Mildura
Moree
Mount Isa
Narrabri
Newcastle
Newman
Paraburdoo
Port Hedland
Port Macquarie
Proserpine
Rockhampton
Roma
Shute Harbour
South Molle Island
Tamworth
Thursday Island
Tom Price
Townsville
Wagga Wagga
Weipa

Exhibit C: Consumer Benefit Formula

Assume that demand is given by the following linear function.

$$Q = a - bP \qquad\qquad (C1)$$

Q is the quantity demanded at price P, a is the intercept and b is the slope of the linear demand function. At quantity Q_0 and price P_0 the elasticity of demand is given by η. Hence,

$$b = -\eta\,(Q_0/\,P_0) \qquad\qquad (C2)$$

Suppose that price drops by a factor of β, i.e., the new price is $(1-\beta)\,P_0$ and $0 < \beta < 1$. The increase in consumer surplus of the price reduction is given by:

$$\Delta S = \beta Q_0\ P_0 + \int_{Q0}^{Q1}\left(\frac{a-Q}{b} - (1-\beta)P_0\right)dQ \qquad\qquad (C3)$$

where ΔS is the change in consumer surplus and $Q_1 = a - b(1-\beta)\,P_0$.

From (1) and (2),

$$a = Q_0\,(1-\eta) \qquad\qquad (C4)$$

and

$$Q_1 = Q_0\,(1-\eta\beta) \qquad\qquad (C5)$$

Substituting (C4) and (C5) into (C3) reduces to

$$\Delta S = Q_0 P_0 \beta\left(1 - \beta\frac{\eta}{2}\right) \qquad\qquad (C6)$$

Exhibit D: Estimation of Interline Expenditures for
Qantas/Air New Zealand Flights

The applicants have provided us data on interline passenger shares on Air New Zealand and Qantas trans-Tasman flights. Table D-1 shows the interline passenger shares for trans-Tasman routes.

Table D-1: Qantas and Air New Zealand Interline Passenger Shares		
Route	Qantas Interline Passenger Share	Air New Zealand Interline Passenger Share
AKL-BNE	5.7%	8.9%
AKL-CNS		11.3%
AKL-MEL	6.3%	10.4%
AKL-PER		4.1%
AKL-SYD	12.6%	9.7%
BNE-CHC	3.1%	3.5%
BNE-WLG	1.7%	
CHC-MEL	3.9%	9.9%
CHC-SYD	11.9%	11.2%
MEL-WLG	4.0%	4.2%
SYD-WLG	13.4%	10.9%
SYD-ZQN		11.5%

But not all Qantas interline passengers are also flying Air New Zealand. For example, some passengers may be flying Qantas from Sydney to Auckland and then flying Cathay Pacific from Auckland to Hong Kong. Similarly, some passengers may be flying Air New Zealand from Auckland to Sydney and then Air Singapore from Sydney to Singapore. Thus, the interline numbers shown in Table D-1 need to be adjusted for the fact that passengers are interlining on carriers other than Qantas and Air New Zealand.

To estimate the percent of Qantas passengers who are interlining on Air New Zealand, we assume that Qantas trans-Tasman interline passengers switch carriers at a New Zealand gateway airport. For instance, an interline passenger flying Qantas from Sydney to Auckland is assumed to switch carriers at Auckland. Similarly, an interline passenger flying Air New Zealand from Auckland to Sydney is assumed to switch carriers at Sydney. This assumption is reasonable given that Qantas and Air New Zealand are leading airlines in their respective countries.

To see how the Qantas/Air New Zealand interline passenger numbers are estimated, consider two airports: A and B. A is a gateway airport located in New Zealand, and B is a gateway airport located in Australia. Suppose that an interline passenger flies Qantas from B to A. Then that passenger is assumed to switch carriers from Qantas to Air New Zealand at airport A with probability α, where α is Air New Zealand's share of all the non-Qantas passengers at airport A traveling on plausible

connecting routes.[104] Similarly, an interline passenger flying Qantas from A to B is assumed to have switched carriers at airport A from Air New Zealand to Qantas with probability α.

Analogous assumptions apply to passengers flying between airports A and B on Air New Zealand. An interline passenger flying from A to B on Air New Zealand is assumed to switch carriers from Air New Zealand to Qantas at airport B with probability β, where β is Qantas's share of all the non-Air New Zealand passengers at airport B traveling on plausible connecting routes. The share of Qantas/Air New Zealand interline passengers traveling on route A-B is then given by:

$$\frac{AB_{qf}\,AB_{qf}^{ish}\,\alpha + AB_{nz}\,AB_{nz}^{ish}\,\beta}{AB_{tot}} \tag{D1}$$

where AB_{qf} and AB_{nz} are Qantas and Air New Zealand passenger volumes, AB_{qf}^{ish} and AB_{nz}^{ish} are Qantas and Air New Zealand interline passenger shares, and AB_{tot} is the total passenger volume on the A-B route.

Table D-2 shows our estimates of the Air New Zealand shares of non-Qantas passenger volumes at New Zealand gateway airports.

Table D-2: Air New Zealand Share of Non-Qantas Passenger Volume	
Airport	Share
AKL	64.3%
WLG	65.6%
CHC	71.1%
ZQN	61.1%

Table D-3 shows our estimates of the Qantas shares of non-Air New Zealand passenger volumes at Australian gateway airports.

Table D-3: Qantas Share of Non-Air New Zealand Passenger Volume	
Airport	Share
SYD	60.9%
MEL	60.9%
BNE	53.6%
PER	65.1%
CNS	68.1%

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[104] Not all routes out of airport A would make sense as itineraries for connecting flights. For example, it would be implausible for a passenger to fly from Sydney to Auckland and then to take a connecting flight back to Melbourne.

The numbers in tables D-2 and D-3 were estimated based on the latest available airport passenger volumes, Qantas and Air New Zealand flight schedules (including the aircraft flown and aircraft capacities), as well as Qantas and Air New Zealand average load factors.[105]

Using expression (D1) and Tables D-1, D-2, and D-3 we estimate that Qantas/Air New Zealand interline passengers are approximately 5.1 percent of all trans-Tasman passengers.[106] Applying the 5.1 percent to the $1.5 billion annual trans-Tasman market yields a total of approximately $76 million for Qantas/Air New Zealand trans-Tasman interline expenditures.[107] But a trans-Tasman interline itinerary also includes at least one leg in New Zealand or Australia. We assume that the fares for all the domestic Australia/New Zealand interline legs are 50 percent of the trans-Tasman interline fares.[108] Combining the trans-Tasman and domestic interline fares yields an annual expenditure of approximately $114 million for all Qantas/Air New Zealand interline flights.

In estimating the values shown in Tables D-2 and D-3 we have not excluded implausible connecting routes because we do not have all the data required to make such an adjustment. But we believe that the numbers in Tables D-2 and D-3 do not overstate the true shares for all plausible connecting routes. Consider the effect of excluding all trans-Tasman routes from the calculations behind Tables D-2 and D-3.[109]

We estimate that Air New Zealand non-Qantas share of passengers at New Zealand gateway airports is approximately 66.2 percent.[110] But our estimate of the Air New Zealand non-Qantas share of trans-Tasman capacity is 73.7 percent. Similarly, we estimate that the Qantas non-Air New Zealand share of passengers at Australian gateway airports is approximately 60.1 percent, where our estimate of the Qantas non-Air New Zealand share of trans-Tasman capacity is 75.9 percent.[111] These numbers might suggest that the figures in Tables D-2 and D-3 are biased upwards as estimates of the shares of passengers traveling on plausible connecting routes. But, according to our calculations, the trans-Tasman routes account for only about 5.5 percent of total Qantas passenger volume in and out of Australia gateway airports. We also estimate that the trans-Tasman routes account for about 13.9 percent of total Air New Zealand passenger volume in and out of New Zealand gateway airports. Therefore, any biases in the Table D-2 and D-3

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[105] The airport volumes and flight schedules were provided by the applicants. The Qantas and Air New Zealand average load factors were obtained from published reports.

[106] In performing the calculations of the Qantas/Air New Zealand interline passenger estimates, we approximated the trans-Tasman route passenger shares using the capacities of the carriers serving these routes.

[107] See Draft Determination at ¶ 667.

[108] This assumption is, in fact, quite conservative. For example, for interline fares shown in Table 1, the domestic Australia fares were, on average, 80 percent of the trans-Tasman fares.

[109] The trans-Tasman routes are not plausible connecting routes for passengers flying between Australia and New Zealand (i.e., it would make little sense for a passenger traveling between Sydney and Melbourne to connect between these cities through Auckland).

[110] New Zealand gateway airports include Auckland, Wellington, Christchurch, and Queenstown.

[111] Australian gateway airports include Sydney, Melbourne, Brisbane, Perth, and Cairns.

estimates related to the inclusion of trans-Tasman routes are unlikely to be of significant magnitude.

Further, the impact of including other implausible connecting routes is likely to bias the Table D-2 and D-3 estimates downward. For example, Auckland to Singapore is an implausible connecting segment for flights from Australia to Auckland. But Air New Zealand's share of non-Qantas capacity on the Auckland to Singapore route is only about 37 percent, well below the 64.3 percent estimate of the Air New Zealand share of non-Qantas passengers traveling through Auckland. Similarly, Auckland to Hong Kong is an implausible connecting segment for flights from Australia to Auckland, and Air New Zealand's share of non-Qantas capacity for that route is approximately 39 percent.[112] Thus, inclusion of some of the implausible connecting routes would tend to bias our estimates in Tables D-2 and D-3 upwards, while inclusion of other of the implausible connecting routes would tend to bias the estimates downwards. As shown, the magnitudes of these self-canceling biases are likely small and the numbers in Tables D-2 and D-3 are likely good approximations of the apposite shares of passengers on the connecting routes.

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[112] The estimates of 37 percent capacity share for the Auckland-Singapore route and 39 percent for the Auckland- Hong Kong route are based on the data provided to us by the applicants.