Submission on the proposed Tasman Networks Agreement by Professor Tim Hazledine, Department of Economics, University of Auckland

Preamble

1. This submission is an evaluation of the evidence on the nature of competition in the trans-Tasman airline routes, and how such would be affected were the two largest and longest-serving carriers, Air New Zealand and Qantas, be permitted to operate what in essence would be a cartel across the Tasman (their proposed Tasman Networks Agreement or TNA).

2. This submission is written in response to the Report by the airlines' economist consultant, Dr Michael Tretheway, non-confidential version, dated 21 August, 2006.

3. First, I note that it is unfortunate that the NZ Ministry of Transport (MoT), and the Australian Competition and Consumer Commission (ACCC) both permitted the airlines' lawyers to delete from the public version of the Tretheway document *all* of the econometric results. Since these results are the basis of Tretheway's arguments, their omission has the effect of making it quite difficult for third parties to evaluate the report and to assist the authorities in their decision processes on the matter.

4. Apparently, these blanket deletions were carried out by the airlines' lawyers, in their mistaken belief that the confidential price data used in the econometric analysis could somehow be recovered from the econometric results. It is understandable that lawyers would be mistaken about this, but the MoT and the ACCC both know better, and, in my view, should not have accepted submission of the confidential version unless the public version was presented with only those deletions (if any) which can be reasonably argued to be required by justifiable concerns about the possible release of sensitive commercial information

The issue

5. The essential issue in this case is whether the normally to be expected substantial anti-competitive (including price-raising) effect of allowing a cartel of the two largest suppliers with at least 80% of the market would in the event be sufficiently mitigated by the competitive constraint provided by two carriers (Emirates and Pacific (Virgin) Blue) each with ten percent or less of the market. Dr Tretheway and his clients Air New Zealand and Qantas claim that it would; just about everybody else disagrees.

6. There is, however, some significant common ground. It is, or (in my opinion) should be generally agreed that:

   (a) In around 2002-03 the Tasman air travel market experienced substantial changes or 'shocks'
   (b) These changes were associated with a significant fall in airfares

(c) Tasman airfares have tended to increase since mid-2004

7. What is not common ground is the following:

(d) The number and relative importance of changes/shocks to account for the reduction in airfares in 2002-04
(e) Whether the 'laws' of competition in small-number oligopoly apply to these markets in 2006

8. The Tretheway position in essence is that the only important shock for pricing was the entry or threat of entry of Pacific Blue and Emirates, and that this shock continues as a *force majeure*, such that the cartel would not be able to impose a significant price increase (ie, laws of small-number competition suspended indefinitely).

9. My view is (i) that by ignoring other changes that took place over 2002-04 Tretheway probably exaggerates the importance of the new entrants (though I believe they were important); (ii) that his submission actually contains no evidence or even argument that would support his and his clients' assertions that now, after the adjustments have been made, structural competition does not matter in these markets; (iii) that the latest evidence for these and other markets strongly supports the continued or renewed importance of structural competition 'in the air' for pricing.

The changes of 2002-04 and the determinants of the fall in prices

10. The list of notable changes and shocks in the trans-Tasman air travel market includes:

(i) Entry in January 2004 of the Low-cost Carrier Pacific (Virgin) Blue into mainly Christchurch routes
(ii) Entry in August 2003 by Emirates Airlines into some Auckland and Christchurch routes, using 5th Freedom rights
(iii) Introduction in October 2003 of Air NZ's 'Tasman Express' system of one-way, no-frills cheap fares (following the November 2002 'NZ Express' innovation on domestic routes – both innovations quickly copied by Qantas)
(iv) Continued expansion of the market penetration of direct B-2-C web-based fare booking systems operated by each airline and by large travel agencies
(v) Expansion of capacity by Qantas and, in particular, Air new Zealand, despite the additional capacity now supplied by the entrants (between July 2003 and July 2005 the number of seats flown across the Tasman by Air NZ increased by one third, according to BTRE data).

11. Tretheway's report focuses on the first two of these, which are also given the credit for (iii). The change in transaction technology (iv) is not emphasized and the aggressive expansion of incumbent capacity (v) is

ignored. However, all five of these factors push towards lower prices, and a correct analysis should either account for their separate contributions, or, if this is not possible, not arbitrarily attribute to one or two of the factors all or most of what is due to them all. As we will see, Tretheway's data do not appear to allow him to isolate the separate contributions of these price-reducing factors, and therefore he should not have given as much credit as he does to the entry of Pacific Blue and Emirates.

12. First, Tretheway regresses his time series data on average fares on the HHI (Herfindahl-Hirschman Index), which is a standard summary measure of the size distribution of sellers in a market. This simple regression (section 5.6.8) apparently yields a coefficient on HHI which, if used along with the effective change in the HHI that would result from the TNA, implies a price increase of around AUD36, or 15%. This is an embarrassingly large figure, and must be dealt to.

13. Tretheway does this by claiming that the simple regression with HHI gives a 'spurious result' because the decline in the HHI that is observed at about the same time as the decline in average air fares is 'due to the entry of Emirates and Pacific Blue'.

14. An econometrician might well respond: So what? If declining concentration is found to result in lower prices, as theory predicts, and if this decline is due to the entry of two new airlines, why does just naming those airlines make the result 'spurious'?

15. In any case, Tretheway is able to force down the coefficient of HHI to less disturbing levels by adding to the regression model dummy variables which allow the relationship to shift after the dates of the entry of Pacific Blue and/or Emirates. An econometrician would not be surprised by this, as the dummy variable(s) and the drop in the HHI are essentially marking the same event(s), and including two variables for the same event in a regression model normally, as here, results in 'multicollinearity' – basically, the econometric analysis is not able to distinguish between the two alternative measures.

16. Because of this multicollinearity, it is invalid to conclude from the above that the 'impact of concentration on average air fares is much reduced when the presence of an LCC is controlled for'. Because in these time series data just about the only concentration-changing event is the entry of the new carriers, it is not possible to infer the existence or not of a concentration effect 'controlling' for this entry. The effects simply cannot be disentangled from these data. What are needed are cross sectional data with a true variety of market structures -- with/without LCCs, and with a range of numbers of carriers.

17. It is also rash to confidently assign names to date dummies -- that is, to dummy variables which switch from 0 to 1 on some date, such as the date of the entry of Pacific Blue into a market. Such shifter variables will pick up the net effects on the relationship of all and every event that occurred at

or even around about the date from which the dummy is assigned its non-zero value. As we have seen, there were a number of other market-affecting events at or around the time of the Pacific Blue and Emirates arrivals on the scene, and the date dummies will pick up the combined effects of all of these. That is why these variables are truly called 'dummies', at least in time series analysis -- they are mute as to what is driving them.

18. Thus, it appears from the report that the 'best' date dummy may actually be the one that switches on in October 2003, the month that Air New Zealand introduced its Express fare system to its Tasman routes (quickly followed by Qantas). As Tretheway admits: 'One interpretation might be that it was the Tasman Express innovation by Air New Zealand that has had the largest impact on the average fares on trans-Tasman routes.' [5.10.4]. However, to me, this result just demonstrates the basically insuperable problem of inferring any specific causation from the econometric processing of date dummies when a lot of things happened at approximately the same time.

19. In summary, I have suggested that it is rash to assign name tags to simple dated dummy variables, especially in this particular case when we can readily identify factors other than the entry of Pacific Blue and/or Emirates which have similar (downward) effects on air fares. Some of these factors are probably themselves related to the innovation, world-wide, of the LCC business model (cheap one-way fares), some are independent of this (adoption of web-based booking systems, which strip out transaction costs), and one at least was the choice of the incumbents (their apparently quite aggressive capacity response to the new entry).

After the dust has settled

20. The points summarised in the previous paragraph are, I believe, quite important, but they are not key to this case. Let us suppose that the presence of Pacific Blue and/or Emirates on Tasman routes has indeed had an impact on the fares charged by Air New Zealand and Qantas greater than would naturally be expected from the greater structural competition in the markets now served by more airlines. That is, agree for the sake of argument with the Tretheway position that there has been a substantial and permanent lowering in the pricing regime due to the LCCs. Would this in any way justify allowing Air New Zealand and Qantas to form a cartel? *No it would not*. The impact of technological innovations in this or any industry does not mean that there will be more than at most a temporary suspension of the usual well established propositions that the number and size of independent competitors serving the market matters for the outcome of competition, in particular for pricing.

21. To motivate the point, consider the previous great innovation in air travel, namely the introduction of jet aircraft in the late 1950s. Before the Boeing 707 and Douglas DC8 arrived on the scene all the airlines used prop planes (DC7s, Super Constellations, Stratocruisers). They competed on more or

less equal terms, and we would expect that routes with two carriers would have had lower fares than monopoly routes (at least they would have had in unregulated markets). When the jets began arriving this settled situation would be disturbed, and the airlines adopting the new technology first would have an advantage over the laggards. But soon all the airlines were flying jets on their medium and long-haul routes on more or less equal terms again, and again structural competition would matter. That is, the innovation of a superior technology (jet propulsion) has not earned the airlines antitrust immunity.

22. The innovation of the LCC business model had a traumatic effect on some of the notoriously costly and unwieldy U.S. legacy carriers, as Tretheway documents in his report and elsewhere. But even these have made their adjustments, and in fact the legacy network carrier model continues to survive on most routes, with larger shares of the market than are taken by LCC s. In the Australasian region it seems that the impact of LCCs has been much less severe, partly because the legacy carriers here were in much better competitive shape than the bloated American carriers, and partly because Virgin Blue (the only true independent LCC here) has itself adopted a number of legacy carrier features, in response to the particular requirements of the markets in this part of the world.

23. So, there has been an impact of the LCC business model, along with the impact of the internet; Air New Zealand and Qantas have successfully – even, creatively -- adjusted their operations in response, and now the usual competitive game is on again, if indeed it was ever suspended. And it is a well established feature of this game, of course, that allowing a merger or cartel between the two (by far) largest suppliers to these markets would likely have significant undesirable effects on competition and prices.

New evidence on airline pricing and competition

24. The econometric analysis of airline pricing which I forwarded to the MoT and the ACCC for their use (although it is not written as a submission on the TNA) contains results which are directly pertinent to the evaluation of the airlines' proposal. Specifically, I find that domestic NZ routes on which Qantas competes with Air New Zealand have substantially lower prices than routes on which Air NZ has a monopoly, and that the evidence for Tasman routes is that competition from Pacific Blue and from Emirates does not seem at all sufficient to prevent a cartel of Air NZ and Qantas from substantially increasing prices.

25. These results are not definitive but they are definitely problematic for the airlines' proposal, and as such should have been confronted by their expert, Dr Tretheway. Instead, he dodges dealing with them at all, justifying this with a few asides about the alleged non-"replicability" of my price data (which were gathered in real time from airlines' websites). [5.1.3; 5.2.3 n18]

26. This objection is, to borrow a word, spurious. If the results of real-time data collection were to be generally inadmissible then, for example, just about all the world records in athletics will have to be declared null and void, because the data used to justify them are "non replicable". The data used in my study were conscientiously and competently collected, and subjected to careful checks for errors. They are a valid basis for analysis.

27. Tretheway also risks imputing guilt by association in the following passage: 'Here I am able to replicate the findings of the simple but erroneous analysis found in the early literature...of the impact of market structure on fares and found by Professor Hazledine in his recent unpublished work.' [5.1.7]. It would have been preferable if Dr Tretheway had made it explicitly clear that the Hazledine results, which are based on a multivariate model, do not suffer from the problem of the 'simple [and therefore] erroneous' findings he criticises in his own and other work.

28. My data cover two periods: late 2004 and June/July 2005. Thus, the econometric results provide insights into the functioning of the markets after the new business model (based on one-way internet-bookable fares) has been bedded in. And my results imply that the incumbents on these routes (Air New Zealand and Qantas) have indeed been very successful in adjusting to the new environment, and actually now compete on favourable terms with Pacific Blue and Emirates. The implication clearly is that the most important competition on the trans-Tasman routes is again, as it used to be, the independent competition between Air New Zealand and Qantas.

29. These results are reinforced by the new study, co-authored with Professor David Gillen of the University of British Columbia, of pricing and competition on forty Canadian and trans-border routes, observed in May of this year. This study (which has recently been posted on the MoT website) takes full advantage of the rich cross sectional variability in market structures and conditions which is generally (and certainly in this case) not available from time series data, such as those used by Dr Tretheway. We have routes with LCCs and routes without LCCs. We have routes with as many as six carriers competing, and routes which have just one airline. Our results show, in particular, that 'legacy' carriers are able to charge significantly higher prices than LCCs, and that the number of legacy carriers competing on a route is a significant determinant of the level of those prices.

30. These findings, which are probably the first to report on airline pricing under the new regime of, in particular, one-way internet fares, directly contradict Dr Tretheway's sweeping conclusion that his 'results are consistent with conclusions drawn from the growing empirical literature on average air fares. That is, the results indicate that what is far more important than the number of carriers on a route is the type of air carrier. The presence of an LCC is the most important determinant of average fares paid by consumers. If an LCC is present, the number of FSAs has little or no impact on average fares.' [2.2.6]

31. I expect that this statement has some validity in describing what happened when the LCC Southwest Airlines entered many U.S. domestic markets in the 1980s and 1990s. It appears, on the basis of our results, to have little or no validity in the context of the trans-Tasman market in 2006 and beyond (and indeed may already be obsolete as a model of current U.S domestic market conditions).

t.hazledine@auckland.ac.nz