



Anti-competitive effects and public detriment

The two proposals will increase the substantial market power already enjoyed by Qantas and Air New Zealand in the markets in which they operate in a number of ways, and therefore result in higher costs and prices.

Evidence from other parts of the world confirms that Qantas and Air New Zealand will cease to compete with each other in the markets they both currently serve. After bmi british midland⁷ joined the Star Alliance, for example, it withdrew from markets it served from Heathrow where it competed with other Star members: Frankfurt, Cologne-Bonn, Dresden, Düsseldorf, Hamburg, Munich (Lufthansa), Copenhagen, Oslo (SAS).

Higher frequency of service increases market power more than proportionately

Where Qantas/Air New Zealand provides greater frequency of service than currently provided by Qantas and Air New Zealand, it will enjoy greater market power. This is due to the existence of "the S-curve effect": as the number of frequencies a carrier provides in a market increases (relative to those provided by competitors), that carrier will enjoy a more than proportionate increase in revenue from operating an additional frequency. This is because the carrier operating the greater number of frequencies will be able to attract a greater proportion of (higher-yield) time-sensitive passengers, as these passengers place a high value on frequency of service. Specifically, frequent service minimises time-sensitive passengers' "schedule-delay cost": the difference between actual departure times and desired departure time.⁸

Carriers who have not been granted access to large numbers of slots in perpetuity are likely to find it more difficult to provide frequent service.

⁷ bmi is 20% owned by Lufthansa and 20% owned by SAS.

⁸ Trethewey, M and T Oum (1992), *Airline Economics-Foundations for Strategy and Policy*, Centre for Transportation Studies, University of British Columbia, Vancouver, Canada.



The effect of higher frequency of service on market power due to the existence of the S-curve effect does not appear to have been taken into account by NECG.

Greater airport presence increases market power

NECG also do not appear to have taken into account in their analysis the additional ways in which the size of a carrier's slot portfolio and hence airport presence increases a carrier's market power.

A substantial airport presence is a significant barrier to entry to markets where this airport is an endpoint, as it enables the carrier with the substantial presence to enjoy levels of market power in these markets above that accruing from market share. The additional market power enjoyed by the carrier with the substantial airport presence is attributable to three factors.

First, the greater the slot portfolio of a carrier, the greater operational flexibility it will have to respond to the actions of competitors. For example, should a carrier enter a market or increase the frequency with which it serves a market the holder of the larger slot portfolio also serves, the holder of the larger slot portfolio will be able easily to increase capacity in that market by adding frequencies. This will discourage other carriers from 'vigorously' competing with the holder of the larger slot portfolio upon entry or from adding capacity, and may even prevent carriers from entering markets altogether.

Second, the more extensive a carrier's network, the greater the likelihood that it will face differing levels of competition across its network, and hence the greater financial flexibility it will have to respond to the actions of its competitors. Specifically, it will be able to cross-subsidise across its route network: it will be able to offset any reduction in revenues in markets where entry occurs or competitors add capacity with economic rents earned in other markets.



Third, the greater the presence a carrier has at an airport, the more attractive the loyalty programmes it offers will be in the catchment area of that airport. This is because the non-linear pay-off schedules inherent in these schemes incentivise participants to direct substantially all of their business to the carrier with the largest presence at the airport located in their vicinity. These loyalty programmes are discussed further below.

A number of studies have attempted to estimate the magnitude of the additional market power enjoyed by carriers in city-pair markets where they have a substantial presence at one (or both) of the endpoint airports. Borenstein (1989)⁹, using data on 3,591 domestic routes operated by the nine largest US airlines, found that a carrier with a 50% airport emplanement share at both ends of a route could charge high-end prices approximately 12% above those of a competitor with a 10% endpoint airport share. In a separate study, Borenstein (1991)¹⁰, using data on 948 US domestic routes found that, on average, a one percentage point increase in airport originating traffic share is associated with a one-quarter percentage point increase in route traffic share, regardless of the difference in fares between competitors on each route. Borenstein also concluded in a 1992 study¹¹ based on the thirty largest US airports, that passengers on flights originating or terminating at the hub airport of a carrier paid a premium which increased by approximately 0.44% for every 1% increase in airport concentration. Berry (1990)¹² found that the premium carriers are able to charge is higher on hub-originating services (as opposed to hub-terminating services).

⁹ Borenstein, S (1989), "Hubs and High Fares: Dominance and Market Power in the US Airline Industry", *Rand Journal of Economics*, 20(3), Autumn 1989; 344-365.

¹⁰ _____ (1991), "The Dominant-Firm Advantage in Multiproduct Industries: Evidence From the US Airlines", *Quarterly Journal of Economics*, 106, November 1991; 1237-1266.

¹¹ _____ (1992), "The Evolution of US Airline Competition", *Journal of Economic Perspectives*, 6(2), Spring 1992; 45-73.

¹² Berry, S (1990), "Airport Presence as Product Differentiation", *American Economics Association Papers and Proceedings*, 80(2), May 1990; 394-399.



It was subsequently shown that studies such as these significantly underestimate the level of market power enjoyed by carriers with a substantial airport presence in airport-pair markets due to endogeneity in the estimated model. Evans, Froeb and Werden (1993)¹³ found that when the model was properly adjusted, the (unbiased) estimate of the effect of concentration on price exceeded (biased) Ordinary Least Squares (OLS) estimates by approximately 250%.

Loyalty programmes increase market power of carrier with a substantial airport presence

"Full-service" carriers (as opposed to "low-" or "no-frills" carriers) generally operate three main loyalty programmes: frequent flyer programmes (FFPs), corporate deals, and travel agent commission override schemes (TACOs). All of these generally offer 'rewards' to participants once the value of their transactions reaches a certain threshold level and then increase the reward amount as higher threshold levels are reached. FFPs reward passengers with free flights, seat upgrades, car hire, etc; under corporate deals companies are offered discounts off the value of employee travel; under TACOs travel agents are rewarded with commissions, etc.

Such a (non-linear) pay-off schedule induces participant loyalty to a single, large carrier, for two reasons. First, the greater the extent to which a participant concentrates transactions on a single carrier, the higher the reward 'rate' it will be eligible for and hence the greater the reward it will earn. Second, the 'larger' this carrier is (the greater its presence at the airport in the vicinity of which the passenger, corporation or travel agent is based), the more likely it will provide most of the services demanded by passengers, firms or travel agents' customers, maximising the proportion of total transactions upon which a reward could be earned as well as the reward rate the participant is eligible

¹³ Evans, W, L Froeb and G Werden (1993), "Endogeneity in the Concentration-Price Relationship: Causes, Consequences, and Cures", *Journal of Industrial Economics*, 41(4), December 1993; 431-438.



for. In order to entice passengers, corporations or travel agents away from the largest carrier, smaller carriers need to offer larger rates of commission on smaller sales levels.

If corporations allow their employees to accumulate and redeem ("earn and burn") the frequent flyer miles associated with the travel they undertake for business purposes (for example, on leisure travel), frequent flyer programmes also encourage employee use of the largest provider of services for business travel. This is because this carrier will operate the largest number of services on which they can redeem accumulated frequent flyer miles. Hence frequent flyer programmes encourage employee use of the largest provider.

Qantas/Air New Zealand would therefore enjoy a substantial competitive advantage on international routes, including in Australia-Europe markets, as a result of having well established FFPs in Australia and New Zealand.

Several studies have empirically examined the link between FFPs and market power. Nako (1992)¹⁴, using data on 497 business trips undertaken by the employees of three medium size US firms during June 1990 and January 1991, found that membership of a carrier's FFP increased an employee's valuation of that carrier's services by approximately US\$40, and a 10% increase in that carrier's airport presence increased the employee's valuation by \$4.16 on average. He also found that the total effect of USAir's (now US Airways) FFP was greater on individuals residing in the Baltimore region, where US Airways has a hub, than on individuals residing in the Dallas-Fort Worth region, where US Airways does not have a hub.

¹⁴ Nako, S (1992), "Frequent Flyer Programs and Business Travellers: An Empirical Investigation", *Logistics and Transportation Review*, 28(4); 395-414.



Morrison and Winston (1995)¹⁵ found that the marginal value of an additional frequent flyer mile in the second half of 1990 was 13.0 cents for those who had accumulated between 3501 and 15,000 miles and 21.5 cents for those who had accumulated between 15,001 and 80,000 miles. The authors also found that the marginal value of an extra mile to passengers whose tickets had been paid for by employers was approximately 16.8 cents. Morrison and Winston (1995) also simulated the effects of abolishing FFPs using 1990 data on twelve US carriers. They found that if all carriers had abolished their FFPs, larger airlines' fares would have fallen and they would have lost market share to smaller carriers.

Being able to attract a substantial proportion of (higher-yield) time-sensitive passengers is crucial to the commercial success of a carrier's operations in the type of city-pairs in which Virgin Atlantic operates, as it ensures that the substantial fixed costs inherent in the provision of services are recovered over the course of economic cycles. Given high sunk and fixed costs and a differing "willingness to pay" across passengers, a profit-maximising carrier recovers costs from passengers approximately according to the "Ramsey Rule": a higher proportion of fixed costs are recovered from those passengers with a higher willingness to pay. The carrier will produce competitive levels of output as those passengers with a higher price elasticity of demand (in absolute terms) are charged lower fares. It will also charge competitive prices and offer a high quality of service provided that it faces effective competition in the markets in which it operates.

Should a carrier's ability to attract a large number of time-sensitive passengers be reduced, the carrier will need to spread a greater proportion of fixed costs across passengers with a lower willingness to pay, and hence charge these passengers higher fares. However, if it raises fares for such passengers they will switch to its competitors. This will increase the extent to which it will need to raise its fares, causing more passengers to switch, and so on. Of course, if

¹⁵ Morrison, S and C Winston (1995), *The Evolution of the Airline Industry*, The Brookings Institute, Washington DC.



providing the service becomes non-commercially viable, the carrier will be forced to exit the market. Competitive prices, output levels and levels of service quality will only prevail in this market if the remaining carriers in this market continue to face effective competition.

The majority of higher-yield tickets are purchased by firms (multi-nationals, large nationals and small/medium-sized enterprises) on behalf of their employees, whose time is valuable. Multi-national firms tend to purchase the largest proportion, given that they have large numbers of employees whose time is extremely valuable and offices in other countries. Being able to attract firms, and in particular multi-national firms, is therefore crucial to the commercial success of a carrier's operations in the type of city-pair markets in which Virgin Atlantic operates.

Carriers are also able to encourage loyalty via the computer reservation systems (CRSs) travel agents use to find out fare, route and departure time information and to make bookings. Studies of US booking behaviour have shown that, for any city-pair market, the majority of bookings are made on flights listed in the first screen of a CRS display and a substantial proportion of these are made on flights listed in the first few lines of the first screen¹⁶. Carriers therefore have the incentive to 'screen pad' to ensure that competing flights are 'pushed' further down the first screen or indeed onto subsequent screens. Listing code-shared flights as flights of each of the code-share partners, for example, will take up considerable screen space.

¹⁶ American Airlines, for example, found that over 90% of all its Sabre system sales came from somewhere on the first screen of a CRS display, and 53.5% came from the first line of the first screen (Gillen, D, T Oum and M Trethewey (1988), "Entry Barriers and Anti-Competitive Behaviour in a Deregulated Airline Market: The Case of Canada", *International Journal of Transport Economics*, 15(1), February; 29-41.



Loyalty programmes can be used by a carrier in a dominant position to compete unfairly

Where a carrier is in a dominant position, it can use loyalty programmes to compete unfairly. By 'tying' the reward received for directing business to it in markets in which it faces little or no competition to the extent to which business is directed to it in markets in which it faces substantial competition, a carrier in a dominant position is able to compete unfairly in markets in which it faces substantial competition. It can do this either by explicitly tying different geographic markets together, or by tying the reward received to total spend across its route network and raising the qualifying threshold levels beyond the level of business undertaken in the markets in which the carrier faces substantial competition. Under this type of behaviour, passengers, corporations or travel agents transacting the same value of air travel will receive different rewards depending on the extent to which they direct substantially all of their business to the carrier in the dominant position. In order to compete, a competitor must offer on a much smaller volume of business the equivalent of the discount offered by the carrier in the dominant position across the tied geographically distinct markets or its entire route network.

In a decision dated 14 July 1999, the European Commission found that British Airways had acted in this manner in its dealings with travel agents. Specifically, the Commission found that British Airways was dominant in the UK market for air travel agency services, and that its "Marketing Agreements", "global incentive programmes" and "Performance Reward Scheme" constituted abuses of this dominant position as defined under Article 82 of the EC Treaty, as they had the object and effect of excluding British Airways' competitors from the markets for air transport originating in the United Kingdom, and discriminated between travel agents. British Airways was fined 6.8 million Euros and ordered to bring the infringements to an end.



Qantas/Air New Zealand would similarly be able to use its loyalty programmes to compete unfairly in Australia-Europe (and other) markets, by leveraging the dominant position it would enjoy in many Australian and New Zealand domestic and international markets.

Improved "feed" increases a carrier's market power

NECC also do not appear to have taken into account in their analysis the fact that (where the volume of direct traffic alone will not make operations commercially viable) improved "feed" (relative to competitors) increases a carrier's market power, in two ways. First, having access to feed traffic at either or both ends of a route increases the commercial viability of a route by increasing loads and hence total revenue. Second, where greater loads permit more frequent service (relative to competitors), average yields earned on the route will increase due to the existence of the S-curve effect discussed above.

Whenever Virgin Atlantic commences a service, we always try to negotiate "Special Prorate Agreements" (SPAs) with carriers operating from endpoint airports. The extent to which we are successful, and hence the terms and conditions we are offered, depends on our bargaining power vis-à-vis these carriers, which in turn largely depends on their relative presence at the airports in question. Hence, even where we are successful, the margin charged on the connecting service gives the carrier with whom we have signed an agreement (and possibly their alliance partners) an advantage in one-stop markets via the airports in question. This will also reduce the viability of Virgin Atlantic's direct services. Carriers competing with our direct services or their alliance partners may be unwilling to enter into agreements with us at all. Alternatively, they may substantially increase the margin charged on connecting services.

(Redacted)



Conclusion

Based on the analysis above, Virgin Atlantic believes that the applications raise serious competition and public interest concerns. If the ACCC nevertheless decides to authorise the applications, it must impose severe conditions in order to maintain effective competition in the relevant markets.

It is difficult to specify such conditions in detail in advance of an understanding of the competitive analysis which might lead the ACCC to grant authorisation. Virgin Atlantic would welcome the opportunity to comment further if necessary, following publication of the ACCC's initial findings. However, it is possible to provide general guidance on the conditions which might be applied.

- **Airport access:** Qantas/Air New Zealand must make available a sufficient number of slots at Sydney's Kingsford Smith Airport, Melbourne (Tullamarine) Airport, Brisbane Airport, Perth Airport and Auckland Airport, together with related facilities such as terminal space, check-in desks, gates, aircraft parking areas, etc., to ensure that competitors are able to provide the level of service necessary to maintain effective competition. Such facilities, including slots at competitive timings, must be fully available for all potential competitors before authorisation is granted.
- **Frequent Flyer Programmes (FFPs):** Qantas/Air New Zealand must grant full access to its FFP(s) to any competitor seeking such access, on terms no less favourable than those applicable to any other participant, including Qantas/Air New Zealand.
- **Interlining:** Qantas/Air New Zealand must make available to competitor airlines interline fares at its hub airports at rates no less favourable than those its charges itself.



- Computer Reservation Systems: Qantas/Air New Zealand must agree not to bias CRS screen display, including by screen padding (displaying its connecting services more than once).
- Travel Agent and Corporate Deals: Qantas/Air New Zealand should agree not to abuse the dominant position it would have on the relevant routes by entering into arrangements with travel agents or corporations whereby sales are in any way "tied".

Virgin Atlantic would also expect that the proposals be granted authorisation for a limited period, after which time they would be reviewed by the ACCC.