so. As a result, the average fare will significantly over-state the median fare, and even more so, the fare available to the marginal passenger. A model written in terms of average mark-ups will therefore over-state the level of prices that the most price-sensitive customers face. This means it will exaggerate the reductions in demand resulting from price changes, and will under-state load levels and actual outputs.[14]

Second, we believe that the approach we have adopted tends to understate the impacts rivalry between FSAs and VBAs have on price outcomes.

That this is so can be seen from the analysis (discussed in sections 2.1.3 and 4.2.1) of the impact of Virgin Blue's entry on prices in domestic Australia. Actual price reductions exceeded those predicted by our models by 2% to 13%. In essence, this reflects the fact that the type of model we have adopted embodies a less intense or 'tough' form of competition than is likely to occur between VBAs and FSAs.[15]

The results we set out therefore need to be seen as likely over-stating the competitive detriments the Alliance involves.

The results of our modelling are presented in section 4.2. As explained above, we assume that in the future with the Alliance VBA entry occurs both on key Tasman routes and on the main trunk routes in domestic New Zealand. More specifically, we assume that VBA entry on the Tasman occurs in the first year of the Alliance and by year 3 of the Alliance the VBA operates 5 aircraft on

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14 Indeed, a single supplier will generally find it easier to price discriminate, and is likely to discriminate more efficiently (in the sense of targeting lower prices at consumers with more elastic demand, rather than at the consumers most likely to switch supplier), than will duopolists or firms in a small number oligopoly. As a result, where the product lends itself to extensive price discrimination, output may well be higher under monopoly than under duopoly. This impact is completely ignored in the modelling approach we have adopted.

15 The difficulty oligopoly models have in capturing the intensity of actual price competition is widely recognised in the economic literature. As Bresnahan notes 'Even such simple theories as Cournot, Bertrant and collusion lead to very different $h(n)$ in $[p - mc(q/n) = h(n)]$ for per-firm output q/n and equal-sized firms n, where the "toughness of price competition" refers to the slope of $h(n)$ and not its level.' Bresnahan, Timothy J. 1992, 'Sutton's Sunk Costs and Market structure', 23, *Rand Journal of Economics*, p. 137.

Tasman routes. For domestic New Zealand, we assume that VBA entry occurs in the second year of the Alliance with 4 aircraft operating by year 3. In contrast, in the future without the Alliance we assumed that VBA entry would only occur on the Tasman. As in the future with the Alliance we assume entry would occur in year 1, however, we assume a lower level of entry than the future with the Alliance with only 4 aircraft operating on the Tasman by year 3. Variations to these VBA assumptions, including no entry, are considered as sensitivity tests.

It is important to note that all our results are presented as the difference between the future with the Alliance and the future without the Alliance. Hence, even though VBA entry may reduce price in the world with the Alliance compared to today's situation, this is not necessarily the case if the future without the Alliance also includes VBA entry. The impact on price and output will depend on the difference between the level of VBA entry in these two future states of the world.

By year 3 of the Alliance, our analysis simulates an average[16] maximum price change of 4.7% on Tasman routes and 4.3% on domestic New Zealand routes. Associated with these price changes, output is estimated to decline by an average[17] 5.9% on Tasman routes and by 3.6% on domestic New Zealand routes. Importantly, these results are the estimated price changes between the factual and counterfactual. The results compared to today are substantially different. On the Tasman, the weighted average price increase estimated by the model between the factual and the base case is 1.7% and domestic New Zealand routes is 3.1%. More dramatically, the factual is estimated to result in 17.3% higher passenger volumes than the base case on Tasman routes and 17.6% higher passenger volumes on domestic New Zealand routes.

The changes in price (compared to the counterfactual) affect demand, and result in deadweight losses – that is, in consumption being foregone that consumers value at more than its cost to society. Three years after the transaction the estimated deadweight loss associated with the above price and output changes is estimated to be $17.5 million in Australia and $22.5 million in New Zealand.[18]

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16 Weighted using factual passenger volumes.

17 Weighted using factual passenger volumes.

18 All detriments and benefits are presented in Australian dollars in present value terms.

As part of the proposed transaction, we understand that the parties will be offering significant undertakings and conditions aimed both at facilitating entry and at providing assurances about the range and prices of services to consumers. The undertakings and conditions will be designed to facilitate and protect new entry. In addition, the parties will discuss with the ACCC and the NZCC undertakings and conditions to ensure that the Alliance does not act unreasonably with respect to capacity and prices on routes where the parties will be the sole operators; and to ensure the delivery of certain of the public benefits identified. Our estimates of detriments in the passenger services market do not reflect the effect these undertakings and conditions would have.

The competitive detriments are far slighter in the other markets. In air freight, entry barriers are low. Although the bulk of air freight in the markets affected by the transaction is currently transported in scheduled passenger services, specialised freight carriers could readily expand and defeat any sustained price increase. In the market for travel agency services, we do not believe there would be any competitive detriments, though the Alliance could accelerate the process by which travel agents face displacement from new forms of distribution.

Public benefits

Given the impacts set out above, the crucial issue is whether there are benefits that outweigh any harm the detriments entail. It is our conclusion that there are indeed such benefits, and that overall, the Alliance is efficiency-enhancing. Section 5 of our report presents our results with respect to the public benefits associated with the Alliance.

We identify seven main types of benefits.

Cost savings

To begin with, the Alliance permits substantial cost savings associated with avoiding at least some of the duplication of capacity that already now occurs and is likely to worsen in the world without the Alliance. For instance, we estimate the annual benefits by year 3 of the Alliance associated with cost efficiencies to be $159 million and $122 million for New Zealand and Australia, respectively. [19]

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[19] As we have noted above, we do not believe there is any reason to expect these cost savings to be dissipated if not passed on. More generally, with respect to the impact of the Alliance on productive efficiency and innovation, there are good reasons to believe investment in cost-

Over its first five years, the Alliance would save an amount that – in NPV terms as of today – would amount to nearly $945 million.

Improved scheduling

Second, through better coordination, the Alliance will allow improvements in scheduling and the introduction of a number of new direct routes – for example, from Auckland to Adelaide and from Wellington to Canberra. We estimate that by year 3 of the Alliance these improvements will yield annual benefits worth $18 million and $12 million for New Zealand and Australia, respectively.

Promotion of tourism

Third, we believe the Alliance will have a significant impact on tourism. The reality is that attracting tourists to Australia and New Zealand will remain a substantial task in the years ahead, and indeed in some respects, will become more difficult. Although the pool of potential first-time tourists will continue to expand, it will not be sufficient to keep the tourism infrastructure fully utilised. At the same time, promotion and marketing costs in key markets overseas are rising, and notably for television advertising, are likely to continue doing so.

Experience, both in Australia and New Zealand and overseas, confirms that nationally-based carriers are among the most significant sources of outlays on promoting tourism. This reflects the fact that they are generally well-placed to capture the gains from that promotion, especially when the promotion centres on both a destination and a brand. By ensuring the continued and strengthened ability of both parties to act as fully-fledged participants in an ever more global aviation market, the Alliance will protect and advance the role Qantas and Air New Zealand play

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reducing and quality-enhancing innovation will be at least as high under the factual as the counterfactual. Under the counterfactual, harsh price competition will reduce carriers' broad capacity to invest, reducing access to funds, availability of scarce managerial time, and the attractiveness of any investment (because of the difficulty of making a return on it). In contrast, the Alliance will have greater incentives to invest because the gains of investment are more readily claimed by the investor.

in promoting tourism to this part of the world. At the same time, it will ensure that each of the parties has an interest in promoting both destinations.[20]

In addition to these impacts on the parties generally, the Alliance will have the following major effects:

- It will substantially increase the incentive for Qantas to promote tourism to New Zealand, most notably through Qantas Holidays. Not only will Qantas Holidays be in a position to sell Air New Zealand services; New Zealand will become more profitable for Qantas, and it will be possible for Qantas Holidays, working jointly with Air New Zealand, to develop new packages aimed at developing important market segments, most notably in Asia.

- It will make it possible for the parties to develop a range of fares and more generally, packages, aimed at dual-destination travellers. For example, unlike the situation today, the parties will be able to develop attractive fares in which a tourist from Asia visits first Australia and then New Zealand, without needing to return to Australia for the homeward leg. This will increase the profitability to the parties of dual destination travel, thereby encouraging its more active promotion.

- It will allow the parties to save on promotional expenditures that currently serve only to offset each other's advertising and marketing efforts. These expenditures can be reallocated to other, more productive, uses.

Given these impacts, we believe that aggregate tourism to New Zealand will increase by 53,000 tourists per year over the levels that would otherwise have been achieved. Tourist volumes to Australia will also increase significantly. This increase in tourist numbers will translate into a gain, in the third year of the Alliance, of $111 million and $129 million to Australia and New Zealand respectively.

In evaluating the extent of the increase in tourism numbers, we have relied on two approaches.

The first is a study conducted by a specialist tourism consultancy, Tourism Future International ("**TFI**"). TFI examined the scope and incentive for Qantas Holidays to promote incremental

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20 Currently, when Qantas promotes New Zealand, say in its advertising material, it faces the risk that the benefit will accrue to Air New Zealand.

tourism into New Zealand, and derived estimates of the likely extent of the effects from the Alliance.

In parallel but independently, we modelled the impact of promotion outlays on tourism inflows. Given these estimates, we were able to assess the effect of greater promotional effectiveness (which arises from consolidating the parties' promotional efforts in an activity characterised by significant scale economies). The overall impacts are then the combined outcome of these effects.

At the same time, we have looked closely at the methods used to evaluate the economic impact of additional tourism numbers.

Additional net inbound tourism is an increase in exports. Like any other increase in exports, the evaluation of net economic impacts depend on the assumptions made about how the economy as a whole operates. In a partial equilibrium framework, which is that used for competition policy analysis,[21] the impact effects of additional tourism outlays are relatively high. In contrast, were a general equilibrium approach to be adopted, the net impacts would be lower.

There are, in our view, significant difficulties involved in adopting a general equilibrium approach. For example, estimates of deadweight losses are generally determined in a partial equilibrium context, and stringent assumptions need to be made to translate these into a general equilibrium approach. And it would obviously be incorrect to adopt a partial equilibrium approach to assessing detriments, while using a general equilibrium model for evaluating benefits.

We have nonetheless considered how much of an impact would flow from estimating the economic consequences of additional tourism flows using a general, rather than partial, equilibrium approach. Our analysis shows that this would only slightly reduce the benefits we have modelled. We therefore conclude that the Alliance will stimulate a significant increase in inbound tourism, especially to New Zealand, yielding sizeable economic benefits.

Freight

Fourth, the Alliance will make it possible to increase freight capacity, most notably from New Zealand to Australia. More specifically, we expect the Alliance to provide an additional 247 tonnes of freight capacity per week compared to the future without the Alliance. Assuming no change in

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21 For example, quantitative estimates of competitive detriments, as reported by the ACCC and the NZCC, are clearly partial equilibrium in nature.

the price of freight services, this amounts to an annual benefit of approximately $4 million by year 3 of the Alliance. By easing the current bottleneck on Tasman freight, the Alliance will also increase the scope for inter-lining New Zealand air freight through Australia to Asia. Overall, the changes in freight capacity arising from the Alliance will assist exporters and more generally international trade in both economies.

Skilled employment

Fifth, the Alliance will have positive effects on skilled employment, notably in New Zealand. In particular, if the Alliance proceeds, Qantas will have incentives to continue contracting a substantial part of its outsourced heavy maintenance to Air New Zealand. Qantas' equity share in Air New Zealand will make continued reliance on Air New Zealand's maintenance operations commercially attractive for Qantas, even if there exist more competitive alternatives. This assurance of future volumes amounting to some $34 million in annual billings will, in turn, allow Air New Zealand to invest in new maintenance facilities at its Auckland base – facilities which can be used to compete for maintenance work internationally. The result will be to provide expansion of servicing activities in New Zealand and to provide employment security for the skilled staff involved, preventing the loss of these skills to overseas. We have taken a conservative approach to the value of these benefits, only valuing the known increase in servicing expenditure due to the Alliance. This amounts to $34 million per year (or $30 million in present value terms).

Use of public funds

Sixth, we believe there will be significant gains to New Zealand taxpayers that are above and beyond the direct impacts set out above. More specifically, it is our view that in the absence of the Alliance, there is a very real risk that the New Zealand Government will ultimately have to make further equity injections into Air New Zealand. These equity contributions will come at the expense of other projects, and like other uses of public funds, will incur the deadweight loss associated with taxation. In contrast, under the Alliance, it is Qantas that will provide additional equity, allowing the task of securing that funding to be handled within the private sector, free of the excess burden taxation involves.

Additional benefits

Finally, additional benefits may arise on the grounds of having a more robust and viable international airline located in the Australia-New Zealand region, as well as preserving the national flag carriers.

Not all these benefits are capable of being rigorously quantified. We have therefore not sought to place a numerical weight on all the sources of benefits that are relevant to this transaction. More

specifically, benefits such as governance efficiencies, the greater sustainability of a national flag carrier for New Zealand and the increased ability of the parties to compete and operate globally are not captured in our estimates. These estimates are consequently conservative, all the more so as we have not sought to quantify the social costs that would arise if the scenario we set out in Confidential Appendix F were to eventuate.

Overall outcomes

Even though our modelling, reported in sections 4 and 5, does not quantify all the gains from the Alliance, it nonetheless shows that the benefits from the Alliance outweigh the detriments in all scenarios. More specifically, even if it is assumed that no entry occurs, and that no undertakings or conditions are in place, the benefits from the Alliance substantially exceed the detriments in both Australia and New Zealand. Under the VBA entry scenario outlined above we estimate that the net benefit over the first five years of the Alliance would be $889 million in Australia and $1,247 million in New Zealand. The composition of these net benefit estimates are summarised below in Table 1.

Even if it is assumed that no new entry occurs, and that no undertakings or conditions are in place, the benefits from the Alliance substantially exceed the detriments, by $888 million in Australia and by $1,087 million in New Zealand over the first five years of the Alliance.

Table 1: Summary of net benefit estimates, $ million

	Benefits						Detriments		Net benefit		
	Cost Savings	*Scheduling*	*New direct*	*Tourism*	*E&M*	*Freight*	*Dead-weight loss*	*Net Transfer*	*Total*	*NZ*	*Australia*
1	-$18	$12	$23	$104	$34	$1	$62	-$12	$107	$58	$49
2	$150	$11	$21	$206	$32	$0	$22	-$1	$398	$248	$150
3	$281	$10	$20	$240	$30	$4	$40	-$25	$571	$330	$241
4	$273	$10	$19	$226	$29	$4	$38	-$24	$546	$314	$231
5	$258	$9	$18	$212	$27	$4	$37	-$23	$513	$296	$218
Total	$945	$52	$101	$987	$152	$13	$200	-$85	$2,135	$1,247	$889

Conclusions

Aviation, both domestically and internationally, has been reshaped over the last decade. Carriers such as Swissair, Canadian and Ansett - that seemed well-established, with large frequent flyer programmes, strong brands, and substantial corporate accounts - have disappeared, imposing very high adjustment costs on their employees and on the community more widely. Entirely new forms of competition, based on offering low cost, point-to-point travel - have taken their place, and indeed seem likely to eventually secure over 40 per cent of global airline travel.[22] Faced with

[22] Generally, some 30-40% percent of airline travellers have complex itineraries that require connectivity and interlining. These travellers are less likely to use low-cost, point-to-point airlines. VBAs seem likely to be able to secure over half of those travellers who do not need connectivity, giving that form of travel a global market share in the order of 40%. Global aircraft orders by VBA suggest an even higher estimated market share, at least over the longer run.

these developments, even global carriers such as British Airways and United, which only recently seemed highly profitable, have incurred substantial losses and had to retrench capacity.

Looking forward, the only certainty is that the competitive pressures that characterised the decade that has gone by will persist and intensify.

The transaction here at issue is intended to best position the parties to face these challenges. It will help them achieve the efficiencies needed to remain competitive with low cost, point-to-point rivals, while also giving them the greatest ability to participate on favourable terms in increasingly globalised markets. Ultimately, it will allow them to remain as network carriers, with the benefits that brings not only to the travelling public, but also to national economies more widely.

To secure these outcomes, the Alliance will eliminate the competition which would otherwise exist between the parties. Competition, however, is a means, not an end. Competition policy, both in Australia and in New Zealand, recognises this, by providing for authorisation of socially desirable conduct that would otherwise breach the competition laws. It is against this backdrop that the proposed transaction needs to be seen and assessed.

The assessment of the transaction summarised here has been carried out on strict economic grounds. It starts by considering the impacts of the Alliance on market structure and rivalry.

In examining these impacts, we accept the importance of appropriately defining the relevant markets. Nonetheless, we view this as an essentially heuristic task, rather than as an end in itself. So as to be conservative, we have adopted fairly narrow market definitions built up from city pairs. However, we do not believe any of our conclusions rely on the market definitions adopted.

We accept that the Alliance will result in a significant increase in market concentration. Having said that, we believe that the costs of expansion on to Tasman or main trunk routes in New Zealand would likely be low for a carrier already established in Australia or New Zealand, and more specifically for Virgin Blue. We also believe that were prices to rise or capacity to be reduced, entry and expansion would quickly become even more profitable. It is consequently our view, that should the Alliance proceed, full scale VBA entry will occur, while it is much less likely to do so in the Alliance's absence.

Given this assessment of the Alliance's impacts on market structure, we have considered its effects on costs and outputs. We find that the benefits from the Alliance are so great as to plainly offset any competitive detriment. These benefits include cost efficiencies, but also improved customer convenience in terms of scheduling and direct services, enhanced promotion of tourism, greater freight capacity, the protection and promotion of skilled employment and savings in public outlays (and hence a reduced deadweight loss from taxation). The benefits in these respects are

great enough to materially exceed the costs in each of the scenarios we have assessed, including those where no new entry occurs.

A full analysis of the social consequences of the Alliance would place more weight than we have been able to on several aspects of the comparison of the world 'with' and 'without' the Alliance. There are long term benefits to both carriers from consolidating their position in the face of growing international competition. We have not been able to quantify these benefits, but this cannot be taken to mean that they are not material. The New Zealand Government's decision to take a substantial stake in Air New Zealand attests to the community significance these benefits have.

Additionally and importantly, for reasons we set out above, we are not convinced that a similar arrangement, further into an intense period of competition for market share between Qantas and Air New Zealand, would or could provide as much benefit to the parties. We believe that waiting would be especially costly to Air New Zealand and to New Zealand as a community. Relative to the substantial risks inherent in the current situation, the Alliance offers a far more secure path to a viable future for Air New Zealand, as well as a better opportunity for Qantas to strengthen its ability to compete against mega-carriers from other parts of the world (many of which are government owned or supported). We have not sought to quantify the loss that would occur in the world without the Alliance of the 'option value' of securing a more advantageous transaction now.

Even on these conservative assumptions, the gains, both to Australia and New Zealand, significantly exceed the costs. As a result, we believe the transaction readily meets the hurdles set by the competition laws and ought to be authorised.

1 Introduction

The Network Economics Consulting Group Pty Ltd (NECG) has been engaged by Qantas and Air New Zealand to undertake an economic analysis of the competitive detriments and public benefits of the Alliance between Qantas and Air New Zealand, in particular:

1. Determine the most likely outcome(s) in the absence of the Alliance (the 'counterfactual(s)'), based on NECG's knowledge of the industry economics, and through discussions with the parties.

2. Advise on the economic principles underlying the legal competition analysis, including the scope of the relevant markets.

3. Identify and quantify, where possible, the likely benefits, detriments and competitive effects on the relevant markets of the Alliance, as compared to the counterfactual.

4. Prepare a report on NECG's economic analysis, which concludes whether the Alliance satisfies the criteria for authorisation.

5. Respond to any issues that may arise during the process of the regulators' assessment of the authorisation applications.

Our economic analysis of the detriments and benefits, including our analysis of the specific issues listed above, relies on data and information provided by both Air New Zealand and Qantas, as well as other documents, which are noted and referenced throughout the body of this report where appropriate.

1.1 Description of the Alliance

The Alliance will involve Air New Zealand and Qantas entering into a Strategic Alliance Agreement which will, amongst other things, involve the coordination of all Air New Zealand flights and Qantas flights which operate to, from and within New Zealand. As a pre-condition to the Alliance, Qantas will acquire a 22.5% 'cornerstone' shareholding in Air New Zealand. Qantas proposes entering into a Subscription Agreement with Air New Zealand under which it will agree to acquire this shareholding.

The Alliance will involve the coordination of all business activities undertaken in respect of the JAO Networks, including the scheduling and pricing of all services. The parties will also include a

formula for comparing the net positions of each party, which may lead to a transfer payment being made form one party to the other. Air New Zealand will manage the JAO Network and, subject to input from a Strategic Alliance Advisory Group (which will consist of an equal number of Air New Zealand and Qantas representatives), will be responsible for running the day-to-day operations of the JAO. Qantas will participate in Air New Zealand's management of the JAO Networks through its representation on the Strategic Alliance Advisory Group and through Qantas personnel seconded to Air New Zealand from time to time.

The Alliance will include Freedom Air, which is owned by Air New Zealand but which will be subject to separate management arrangements to those applying to the Alliance generally. The Alliance will also include Qantas codeshare revenues on Air Pacific flights (Air Pacific and Qantas are related companies with Qantas having a 46.32% shareholding in Air Pacific and significant board representation). Until the existing alliance arrangements between Air New Zealand and United Airlines expire or terminate, New Zealand/United States routes will not form part of the JAO Networks.

As part of the application for authorisation it is our understanding that Qantas and Air New Zealand will be offering enforceable undertakings and conditions. The undertakings and conditions will be designed to achieve the following objectives:

- to facilitate and protect new entry on trans-Tasman and domestic New Zealand routes, including access to terminals, ground services and engineering facilities;
- to ensure that the Alliance does not take unreasonable actions relating to capacity or pricing on routes where the Parties will be the sole operators; and
- to ensure the delivery certain of the public benefits identified in the Application.

1.2 Report structure

Our report, which presents the findings of our analysis, is structured as follows:

- Section 2 highlights the major trends affecting the airline industry relevant to an evaluation of the costs and benefits of the Alliance. It also sets out our approach to market definition and competitive effects, which underpins our views regarding the future state of competition in those markets with and without the Alliance, and hence, the likely cost-benefit calculation associated with the proposal. A detailed analysis of market definition issues is presented in Appendix A.

- Section 3 sets out the main features of the future world with and without the Alliance. These scenarios form the basis of the assessment of competitive detriments and public benefits in the remainder of the report.

- Section 4 examines the competitive detriments associated with the Alliance as compared to the future without the Alliance. This section reports the results of our merger simulation model in terms of price, output and welfare. Appendix E presents the details of the competitive detriments and public benefit modelling and the sensitivity of the model results to variations in input assumptions.

- Section 5 analyses the public benefits associated with the Alliance compared with the future in its absence. These benefits include cost savings, scheduling efficiencies, tourism and capital related efficiencies.

- Section 6 balances the competitive detriments and public benefits quantified in the previous sections.

2 The Competitive Context

2.1 Global trends in airline industry

The following global trends in airline markets are especially relevant in forming a view of the likely future state of the world with and without the Alliance:

- the changing extent and nature of domestic and international airline regulations, particularly as they relate to Australia and New Zealand;
- the emergence of global competition between airline alliances that has resulted from increased airline coordination;
- the price and output impacts of the rise of VBAs; and
- rationalisation in the ticket distribution industry.

2.1.1 Domestic and international airline regulations

Trends in domestic and international airline regulations are relevant in evaluating the appropriate geographic markets in which air services are provided domestically in Australia and New Zealand, on Tasman and other international routes (see section 2.2.3), as well as in considering expansion barriers (see section 2.3.2).

Domestic and international air services have traditionally been highly regulated.[23] Domestically, air services have been regulated by restrictions on entry and expansion and controls over pricing, the extent and precise form of these varying greatly from country to country. Internationally, regulation has occurred by means of bilateral air services arrangements (ASAs) between countries,

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23 For a discussion on the impact of regulation, deregulation and liberalisation in the air services industry, see Productivity Commission, 1999, *International Air Services*, and Yergin, D. Vietor, R. H. K. & Evans, P. C., 2000, 'Fettered Flight: Globalization And The Airline Industry', unpublished, November.

which grant the right to various 'freedoms of the air' to each country's authorised airlines, a basic system of air rights established under the Chicago Convention 1944. Qualification as an authorised airline is based on factors relating to ownership and control.

However, significant deregulation and liberalisation have occurred in recent years. In addition to strictly unilateral initiatives (such as the removal of domestic restrictions on entry and pricing), developments such as Open Skies agreements have, at least in some respects, overcome some of the restrictions created by the bilateral system.

The Open Skies agreement between Australia and New Zealand, agreed to in late 2000, continues the trend towards liberalisation created by the Single Aviation Market (SAM) arrangements signed between the two countries in 1996.[24] The Open Skies agreement allows for the following:

- any authorised airline to fly unrestricted between Australia and New Zealand;
- any authorised airline to operate domestic services in Australia and New Zealand, and to carry domestic passengers on international services between airports approved for international services in each country;
- removal of limits on the number of authorised airlines that can operate services linking any city-pair combinations within and directly between the two countries, and on passenger or freight capacity on such routes;
- removal of the beyond rights restrictions that existed under the SAM agreement;[25] and
- granting of seventh freedom rights for dedicated freight services to international airlines of both countries.[26]

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24 See http://www.executive.govt.nz/minister/gosche/open_skies/joint_pr.htm; and http://www.executive.govt.nz/minister/gosche/open_skies/backgrounder.htm.

25 Beyond (or fifth) freedom rights allow for an airline to fly between two countries provided that the flight originates or terminates in the airline's home country. Under the SAM, beyond services were limited to 12 Boeing 747s per week to a maximum of 11 countries.

26 Seventh freedom rights allow for an airline to operate services between two countries regardless of whether the airline stops at a port in the airline's home country at any stage of the journey.

The Open Skies arrangement also opens the possibility for the granting of seventh freedom rights for passenger services. However, the Open Skies agreement continues to impose the ownership and control restrictions that prevailed under the SAM agreement. In order to be classed as an authorised airline, an airline is required to meet certain ownership and control requirements or otherwise receive ministerial approval in both countries. It also has to meet operational requirements covering security, insurance, noise and operational authorisations from both countries.[27]

The liberalisation apparent in the Open Skies agreement, relative to the system of restrictions that was previously in place, has been paralleled, albeit to differing extents, in major jurisdictions overseas, including Europe and the United States.

2.1.2 Increased airline coordination and competition between airline alliances

Deregulation and liberalisation of airline markets have placed sustained pressure on airlines to drive cost reductions and efficiencies to survive and compete in an increasingly global market. At the same time, airlines have also been forced to respond to changes in consumer preferences, including demand for seamless travel. The result has been significant structural change in the airline industry, driven by a significant increase in coordination amongst airlines. This has been reflected in the emergence of global airline alliances as well as authorised agreements involving price and schedule coordination. This increased airline coordination has created a broader sphere of competition in which airline alliances compete with each other on a global network basis.

In reality, there is a broad spectrum in the extent to which airline alliances coordinate activities. For simplifying purposes, in its determination regarding the Restated Joint Services Agreement between Qantas and British Airways ('RJSA determination'), the ACCC referred to two broad types of alliances, namely 'marketing' alliances and 'integrated' alliances:[28]

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27 See http://www.transport.govt.nz/downloads/open_aviation_australia.pdf, paras 3.5 and 3.6.

28 ACCC, 2000, *Application for Authorisation: Joint Services Agreement between Qantas Airways Limited and British Airways Plc*, 10 May. Authorisation No: A30202, File No: C1999/767 ('RJSA determination'), p. 27.

> Integrated alliances .:. typically involve a high degree of integration of the airlines concerned, including coordination of fares, schedules, service levels and yield and capacity management ... integrated alliances contemplate that the alliance carriers operate as a single competitive entity across part or all of their networks.
>
> Marketing alliances offer the consumer the benefits of broader networks, more seamless travel and expanded loyalty programs. However the alliance airlines generally continue to offer their fares, schedules and services independently, and airlines within the same marketing alliance may compete with each other if on the same route.

In addition to the types of coordination noted by the ACCC, integrated alliances may also involve joint purchasing of fuel, catering services, and possibly aircraft, as well as rationalisation of ground handling services.

Both marketing and integrated alliances have emerged as significant factors in the global aviation landscape. The growth in marketing alliances is reflected in their share of total international passenger traffic. The three major alliances of this kind are **one**world, the Star Alliance and SkyTeam. Credit Suisse First Boston (2002) estimates that these three alliances account for 53 per cent of global international passenger traffic.[29] A summary of airline membership to each of these three marketing alliances is presented in Table 2.

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29 Credit Suisse First Boston, 2002, *Global Airlines*, 24 May, p. 3.

Table 2: Summary of marketing alliance membership

oneworld	SkyTeam	Star Alliance
American Airlines	Delta	United Airlines
British Airways	Air France	Lufthansa
Iberia	Alitalia	All Nippon Airways
Qantas	Korean Air	Air Canada
Cathay Pacific	Aeromexico	SAS
Aer Lingus	CSA Czech Airlines	Air New Zealand
Finnair		Thai Airways International
Lanchile		Singapore Airlines
		Varig
		Austrian Airlines
		Mexicana
		bmi British Midland

Source: Credit Suisse First Boston, 2002, *Global Airlines*, 24 May.

Growth in integrated alliances has also been significant. One of the first integrated alliances was formed between KLM and Northwest, which now forms the basis of the Wings alliance.[30] Other integrated alliances have also been formed since this agreement, including the Joint Services Agreement between Qantas and British Airways. Most recently, the EU has approved an alliance involving Lufthansa, United Airlines and SAS, as well as alliances between KLM and Northwest and between Lufthansa and Austrian. In 2002 alone, seven integrated alliances were granted regulatory approval or re-approval:

- Delta–Air France–Alitalia–Czech Airlines
- American Airlines–Finnair

30 Credit Suisse First Boston, 2002, p. 15. Other airlines aligned with the Wings alliances are Japan Air Systems, Malaysia Airlines, Martinair, Kenya Airways and Surinam Airways.

- Lufthansa–Austrian Airlines
- Delta–Korean Airlines
- United–British Midland[31]
- Northwest-KLM
- United–Lufthansa–SAS

The fact that many integrated alliances have been authorised by regulatory bodies abroad is instructive, strongly suggesting that such agreements may be highly effective in realising cost benefits and generating consumer benefits, so much so that they outweigh any elements of such agreements that might impact on competition. This is consistent with the view that integrated alliances, as compared with marketing alliances, provide the greatest scope for realising cost savings and efficiencies.

A number of commentators believe that equity investments strengthen the commitment of airlines to the types of cooperative arrangements described above.[32] Some commentators go further, suggesting that even equity stakes may not be sufficient, and that only full corporate mergers would facilitate the full realisation of potential cost savings and consumer benefits.[33]

Economic analysis is certainly consistent with these views. The essence of equity participation is that it involves a claim on residual income – that is, on the income available after all fixed commitments have been met. At the same time, the acquisition of that claim is the acquisition of an asset that, as a general matter, has a disposal value that depends on the expectation of residual income into the future.

Because the claim is on residual income, the owner of that claim has a strong incentive to ensure that the assets from which the income stream is being derived are used efficiently. This is not

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31 Approval conditional on US–UK bilateral rights.

32 Tretheway, M. W. 1990, 'Globalization of the Airline Industry and Implications for Canada', *Logistics and Transportation Review*, vol. 26, issue 4, pp. 362–3.

33 ibid, p. 362. The argument is also noted in Credit Suisse First Boston, p. 26.

merely because that efficiency affects the current income stream to the owner but also because it is the primary determinant of the disposal value of the claim. Additionally, because the equity claim is simply against residual income, the owner of that claim will not have an interest in any particular uses of the underlying assets, but simply on securing those assets' most efficient use, whatever form that may take. In contrast, a more limited claim – say the claim on some or all of the income from a particular service, or a particular city-pair – would induce the owner of that claim to seek profit-maximisation with respect to that more limited area of operation, even if that involved incurring losses (or foregoing gains) more generally. Claims on residual income therefore most fully ensure that participating carriers have common interests and face well-aligned incentives.

At the same time, because equity claims carry the right to determine the entity's management, they also vest in the equity owner the means needed to give effect to the efficiency incentives set out above. They consequently provide both the incentives and the ability to seek efficient asset use. It follows that absent regulatory barriers, it is highly likely that airlines would move to full consolidation through merger, rather than relying on alliances to achieve efficiencies of coordination and greater reach.

In practice, however, the regulatory barriers to international consolidation remain formidable. Virtually universally, ASAs impose domestic ownership or control requirements that prevent entities that are both foreign owned and controlled from using the rights they provide, as noted in section 2.1.1. Although some change is underway, it will be many years before widespread liberalisation of these restrictions is secured. Indeed, at least as matters now stand, the prospects for any significant multilateral liberalisation of these restrictions are very limited – and absent multilateral liberalisation, bilateral moves alone cannot materially reduce these restrictions' effects. As a result, the scope for full merger is limited, and equity participation, when it occurs, falls short of complete integration.

Having said that, it is nonetheless important not to understate the significance of equity participation when it does occur. Equity participation, assuming it is on a material scale, defines a decision-making context quite different from the incentive structure typical of authorised arrangements involving price and schedule coordination. By its nature, equity participation creates incentives for **joint** efficiency maximisation, as the claimant on residual income has an incentive to expand the income of the entity on whose income it has a claim, including by expanding that entity's output, if it can thus serve the market at a lower cost. In contrast, in typical arrangements involving price and schedule coordination that do not involve equity participation, each party pursues its own interests, and gains, rather than loses, when others in the arrangement reduce output, even if their costs are lower than its own. At the same time, to the extent to which provision is made for joint control, greater means are provided for identifying and securing

opportunities for profit maximisation than would ever occur, in practice, within price and schedule coordinating arrangements.

It follows that efficiency gains, similar to those achievable by merger, are indeed most likely to be achieved where there is equity participation on a material scale, as the literature discussed above suggests.

2.1.3 The impacts of the rise of VBAs

As market entry has been liberalised, VBAs have emerged as a new and significant source of competition in airline markets around the world.

VBAs have been able to enter the market with lower cost structures compared with their FSA counterparts.[34] Significant cost savings achieved by VBAs relative to FSAs relate to the reduced range of services offered by VBAs, including the operation of a single cabin class, and the reduced provision of in-flight services. In addition to these cost savings, and to those which come from avoiding the legacy of industrial relations agreements that affect incumbent airlines, additional cost advantages are likely to relate to the focus on short-haul routes[35] (with potentially low

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34 Dresner, Lin, J. C. & Windle, R. 1996, 'The Impact of Low-Cost Carriers on Airport and Route Competition', *Journal of Transport Economics and Policy*, September, vol. 30, iss. 3, p. 311, who cite findings by Bennett and Craun, 1993, which found that incumbent FSAs had unit costs that were 50% to 70% higher than Southwest. The DOT reported that, for the 1998 calendar year, total domestic operating cost in cents per available seat mile for FSAs, adjusted for distance, ranged from 7.737 cents for America West and 9.123 cents for Delta to 11.582 cents for US Airways, while costs for Southwest and Frontier were, respectively, 6.083 and 8.626 cents. See United States Department of Transportation, 2001, *Findings and conclusions of the economic, policy and legal issues*, p. 29.

35 See http://www.ryanair.com/; http://www.easyjet.com/en/about/mission.html; and http://www.southwest.com/about_swa/financials/investor_relations_index.html.

turnaround times) using a single type of aircraft,[36] offering a more limited range of fare options,[37] and using ticketless booking systems.[38]

As such, VBAs have been able to target customers that are relatively more price sensitive, that is, have relatively low willingness to pay and high demand elasticities. However, this is not to suggest that VBAs do not also target business customers. Indeed, successful VBA entrants, including Virgin Blue, easyJet and Southwest, have also aimed to maximise their potential customer base by actively targeting business customers. As noted in section 2.2.1, in relatively small markets, such an approach may be necessary in order for VBAs to generate sufficient scope to fully exploit their lower cost structures and reach minimum efficient scale. To illustrate the point, Virgin Blue in Australia has, on several occasions, publicly stated its aim to target the business market. For instance, Brett Godfrey, chief executive of Virgin Blue, stated in a November 2000 interview:[39]

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36 See http://www.virginblue.com.au/; http://www.easyjet.com/en/about/infopack_overview.html; http://www.easyjet.com/en/about/aircraft.html; http://www.ryanair.com/; and http://www.southwest.com/about_swa/airborne.html.

37 See US DOT, 2001, p. 29.

38 See http://www.virginblue.com.au/faq.html; http://www.ryanair.com/FQ.html; http://www.easyjet.com/en/importantnotes.html; http://www.go-fly.com; and http://www.southwest.com/about_swa/airborne.html.

39 *Business Sunday* interview, 2000, Brett Godfrey, CEO, Virgin Blue, 26 November http://finance.ninemsn.com.au/businesssunday/Interviews/stories/story_1317.asp. See also Virgin Blue New Release, 2000, 'Virgin Blue Offers More Flights For Growing Business Market', 30 November, http://www.virginblue.com.au/. For a more recent public statement, see Virgin Blue New Release, 2002, 'Virgin Blue Boosts Services To WA', 19 April, http://www.virginblue.com.au/. The active targeting of business customers is also evidenced in the mission statement of easyJet and a Southwest annual report. See respectively, http://www.easyjet.com/en/about/mission.html; and Southwest Airlines, 1994 Annual Report, p. 5. It is likely that the targeting of business customers by VBAs has, at least in part, been assisted by the need for businesses to cut costs. See http://news.bbc.co.uk/hi/english/business/newsid_1593000/1593241.stm for the United

> We are very much focussed now on the business market as well. We're focussed on all markets and we're pricing accordingly.

This objective is also reflected in Virgin Blue's flight schedules. Whereas a VBA that was solely targeting discretionary leisure customers might only operate a few flights per day, Virgin Blue operated 11 return flights daily from Sydney to Melbourne as of July 2002.[40] This is also evident in its marketing and advertising strategies. An illustrative example is an advertisement placed by Virgin Blue in the *Australian Financial Review* on 2 September 2002:[41]

> At Virgin Blue, we've got times that fit your schedule, and fares that fit your budget. Our Fully Flexible fares allow you to organise travel around your needs. Get your business moving in the right direction, fly Virgin Blue.

Given their cost and operating characteristics, it is unsurprising that VBAs have proven to be a very effective source of competitive pressure in airline markets. Some of the key findings from the literature on the effects on prices and output of VBA entry include the following:

- *Studies from the US highlight the substantial price reductions and increases in output that have occurred on routes where there has been VBA entry.* For instance, Dresner et al. (1996) note case studies by Whinston and Collins (1992), Bennett and Craun (1993) and Windle and Dresner (1995), which each find that VBA entry resulted in substantial price reductions on the routes the VBAs contested.[42] Morrison (2001) estimates that Southwest was responsible for overall savings in the US of US$12.9 billion for the 1998 year. US$3.4 billion of these savings were directly related to Southwest's low fares, while US$9.5 billion represented the indirect competitive impacts of Southwest's conduct on the fares

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Kingdom perspective, which notes: 'As a sign of the times, even stellar investment banks are starting to encourage their staff to abandon business class for EasyJet, which services many of the major European airports.'

40 See http://www.virginblue.com.au/timetables/VBJuly02.pdf. Schedule effective for July 2002.

41 *Australian Financial Review*, 2002, 2 September, p. 5.

42 Dresner et al., 1996, p. 309.

of other carriers.[43] These savings were estimated to amount to 20% of the US airline industry's 1998 domestic scheduled passenger revenue.

- *There is evidence that the VBA presence alters the distribution of fares purchased.* Oster and Strong (2001) compared the distribution of fares for 150 city-pair routes two quarters before the entry of a low fare carrier, with the distribution of fares in the first quarter of 1997, with the low fare carrier still on the route. They found that the entry of a VBA substantially shifted the distribution of fares away from the higher fare classes toward the lower fare classes, resulting in the average fare falling from around US$173 to US$115, while traffic increased substantially.[44] Oster and Strong did, however, find that tickets were still sold across each of the fare classes following low fare entry, despite the distribution of tickets sold changing significantly.[45]

- *There is evidence that price reductions have arisen not only on routes directly affected by entry, but also spillover effects onto routes out of the airport not directly affected by entry as well as competing routes to nearby airports.* Dresner et al. (1996) considered the possibility for VBA entry on a route at a given airport creating spillover competitive effects either on other routes at the airport of entry, or routes at competing airports.[46] Dresner et al. first analysed the impact of Southwest's entry on the Baltimore-Washington Airport in September 1993. They found that yields fell and traffic rose substantially on routes that Southwest entered. More significantly, they found that yields fell and traffic rose on competitive routes from nearby airports and on other routes out of BWI that Southwest did not operate on. A broader econometric analysis on the competitive impacts of VBAs indicated that VBA entry resulted in lower yields and higher traffic levels on the route of

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43 Morrison, S. A. 2001, 'Actual, Adjacent, and Potential Competition: Estimating the Full Effect of Southwest Airlines', *Journal of Transport Economics and Policy*, May, vol. 35, iss. 2, pp. 239–56.

44 Oster, C. V. & Strong, J. S. 2001, *Predatory Practices in the U.S. Airline Industry*, January 15, http://dms3000.dot.gov/docimages/p57/121516.doc, p. 24.

45 ibid.

46 Dresner et al., *op. cit.*

entry and on competitive routes.[47] Dresner et al. found that when Southwest entered a route, yield reductions were around 50%, while for VBAs as a whole, reductions were 38%. On competitive routes, they found yield reductions ranged from 8% to 45% if Southwest served the competitive route while a range of 0% to 41% was found for VBAs as a whole. Dresner et al. therefore concluded that such spillover effects did exist, and hence, consumer welfare gains from VBA activity may have been larger than previously estimated. These are consistent with the effects of Virgin Blue's operations in Australia, discussed below.

- *There is evidence that the benefits of the price reductions that have occurred have not been offset by price increases on other routes.* Existing FSAs have not been able to sustain their original profitability levels by decreasing prices on some routes and increasing prices on others. For instance, Windle and Dresner (1998) found that competitive responses by incumbent FSAs to VBA entry were not offset by increasing prices on other routes without a VBA presence. Their findings were based on analysing the impact of ValuJet's entry into Delta's Atlanta hub.

Overall, the impacts on prices and output of VBA entry are much greater than those associated with competition between FSAs, with VBAs having an effect on competitive outcomes which can be substantially greater than their market share suggests.

In addition, we have obtained data from Qantas regarding the impact of Impulse and Virgin into the domestic Australian market. Results of analysis undertaken by Qantas are consistent with US studies that find that VBA entry has competitive effects that are wider than just on routes directly affected by entry.

Qantas domestic yields were analysed on a route by route basis for the period January–June 2001 versus January–June 2000. This period was chosen as Virgin Blue and Impulse had established services on 11 routes by this period and also to minimise other factors such as the Sydney Olympics and the collapse of Ansett. The routes operated by new entrants are listed in Table 3 below.

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47 In this context, 'competitive routes' refers to equivalent routes originating or terminating at competing nearby airports.