frontier economics

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# FRONTIER ECONOMICS SUBMISSION TO INQUIRY INTO ECONOMIC REGULATION OF AIRPORTS

## SUMBISSION TO THE PRODUCTIVITY COMMISSION'S DRAFT REPORT

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# 1 INTRODUCTION

The Productivity Commission's draft inquiry report on the Economic Regulation of Airports was critical of Frontier Economics' analysis of A4ANZ proposed regulatory remedies[1].

A4ANZ was the only party to present a more detailed assessment of the impacts of changing the regulatory regime applying to monitored airports. The focus of this assessment, prepared by Frontier Economics, was to critically analyse the commonly-espoused views that aeronautical charges have a 'minor influence' on air travel and that "concerns about aeronautical charges mainly reflect a distributional tussle between airports and airlines, rather than creating inefficient impacts on the demand for air travel by consumers".[2]

The Productivity Commission dismissed Frontier's analysis based on perceived deficiencies in the assumptions underpinning the analysis. We dispute both the Commission critique (see section 3) and the way in which it contextualised this evidence within its report (see section 2).

More generally, Frontier Economics is disappointed with the analysis presented by the Commission in its draft report. In our view, it has failed to develop and apply a sensible framework for its assessment and the analysis it uses to support its conclusions sometimes lack reliability and relevance.

We will leave it up to others to expand on the issues with the Commission's draft report in more detail. However, we do wish to address the flaws in the Commission's critique of Frontier Economics assessment of the costs and benefits of reforming the regulatory regime applying to monitored airports.

[1] Frontier Economics (2018), *Economic evaluation of an alternative approach to airport regulation, prepared on behalf of A4ANZ*

[2] Productivity Commission (2011), Economic Regulation of Airport Services, Inquiry Report no. 57, Canberra, p. 182

# 2 CURRENTLY THE COSTS OF NEGOTIATING ARE HIGH

In our view the Commission shows little understanding of our analysis of the impacts of reforms to the airport regulatory regime. And it has therefore misrepresented it.

The Commission implies that Frontier presented a fully-monetised cost benefit analysis (CBA) and that, in a subsequent submission, we presented a revised CBA that showed the outcomes of the analysis were highly sensitive to various assumptions:

> *A4ANZ provided a supplementary submission with a revised analysis by Frontier Economics — analysis that A4ANZ stated was more conservative than the initial one (A4ANZ, sub. 83, attachment D). In its revised analysis, Frontier Economics withdrew the estimates of increased trade and acknowledged that 'there is no economic theory that supports an a priori assumption about the extent of cost pass-through' (sub. 83, appendix D, p. 1). It also reduced the estimated value of time saved by 50 per cent. The bottom line was that Frontier Economics estimated that increasing the regulation of airports would achieve net benefits of $445 million (2.5 per cent of the original estimate of $17.6 billion).*[3]

The Commission's draft report then goes on to describe that this sensitivity discredits the analysis as a whole. In particular, the Commission suggests that Frontier Economics withdrew estimates of trade benefits and reduced the estimated value of time saved by 50 per cent. The Commission used this to suggest that our estimates were unreliable and so dismissed the analysis.[4]

We dispute the way in which this additional evidence was contextualised within the Commission's draft report and believe it shows a fundamental misunderstanding of how the connectivity analysis was used within the broader assessment of the costs and benefits of changing the regulatory regime.

## 2.1 Our analysis had a far wider focus than connectivity

The Commission appears to have missed the key conclusion of our analysis. This was that the proposed remedies assessed are unlikely to increase the administrative and compliance costs relative to the *status quo*.

This is primarily because, when compared to time-unlimited negotiation, enabling access to arbitration, in tandem with the information transparency and disclosure regime, is more likely to lead to timelier, and therefore lower cost, resolution of any disagreements than under the base case. In our view these cost

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3 Productivity Commission (2019) *Economic Regulation of Airports, Draft Report*, p281-282

4 Productivity Commission (2019) *Economic Regulation of Airports, Draft Report*, p281-282

savings are likely to offset the additional incremental costs that may be incurred by the ACCC, airlines and airports.

We also presented evidence and theory that suggested that direct access to a first offer arbitration regime will not necessarily encourage parties to expeditiously seek arbitration or have a detrimental effect on investment by airports relative to the *status quo*.

Finally, we complemented the above analysis with an analysis of the extent to which there are likely to be additional benefits that further support regulatory reform. We suggested that the additional benefits, associated with improved connectivity are likely to be material. The reasons being that lower prices for airport services would be likely to either:

- be passed on to passengers and therefore increase demand for air travel; or
- reduced the fixed route related costs of airlines making some routes and services now no longer marginal.

Together, this is likely to drive new direct or more frequent connections, which may generate additional benefits. In the past, these benefits have been ignored on the assumption that the price elasticity of air travel is low.

We valued these benefits using available evidence, noting that they could be sizeable and should not be ignored in a full analysis of a change in regulatory regime.

We did not attempt to add the various benefit estimates together. This was not an oversight. Rather we openly acknowledged in our original report that any estimates of benefits would be uncertain and highly sensitive to assumptions around the effectiveness of the regulatory remedy and the elasticity of demand. In fact, we devoted a whole chapter to this highlighting how we dealt with this uncertainty by separating the assessment into two parts:

- **The cost effectiveness analysis** which considered the extent to which the proposed remedies impose incremental costs on (or resulted in avoided costs for) industry and governments agencies associated with administering and complying with the proposed remedies, relative to the base case. The administrative and compliance costs associated with the proposed remedies were monetised where possible. For this we relied on data from airline stakeholders on the time and number of staff involved in negotiating with airports. Other assumptions made were fully documented.
- An analysis of the **additional benefits** of the proposed remedies — focussing on incremental increases in consumer welfare (and deadweight loss) and the travel time savings and catalytic impacts on GDP from improved connectivity relative to the *status quo.*

We clearly described why valuing the additional benefits associated with the proposed reforms is far more challenging. We repeat this below.

*Valuing the benefits associated with the proposed reforms is far more challenging for the following reasons:*

- *To estimate the scale of some benefits, a number of assumptions had to be made. While these are fully described in the relevant sub-sections we note that this will inherently make the estimates less reliable than the administrative and compliance cost estimates.*
- *For some benefits it was only possible to quantify the value of the additional output generated (i.e. GDP). These estimates cannot be directly incorporated into a CBA as they do not take account of the change in inputs required to deliver these outputs. For example, in estimating the benefit*

*associated with increased connectivity we are not able to estimate all the incremental costs associated with providing these additional routes.*

*Because of these limitations, we have undertaken a cost effectiveness analysis. This focuses on the costs associated with the implementing, administering and complying with the proposed reforms. We complement this with an indicative analysis of additional impacts to explore the extent to which there are likely to be sizeable additional benefits that further support regulatory reform.*

Because of these limitations, we first and foremost focused on the costs and avoided costs associated with the implementing, administering and complying with the proposed reforms.

## 2.2 Uncertainty is not a deficiency

The Commission suggests that the uncertainty inherent in our analysis of the connectivity related benefits makes the whole analysis null and void.

The Commission notes that A4ANZ provided a supplementary submission with additional analysis prepared by Frontier Economics. In contrast to the suggestions by the Commission, this was not a revision to our analysis. Instead, it was provided to demonstrate how our economic evaluation could be used in a formal cost benefit analysis framework (see Box 1: .

It was intended to highlight that while the size of the benefits we estimated was sensitive to various assumptions, this sensitivity did not affect the directional conclusions of the analysis.

We did not, as was suggested, withdraw our estimates of the impacts on trade from improved connectivity. Rather, consistent with standard approaches to CBA, we did not include them given they are not directly comparable.

In comparing the analysis in the supplementary submission to an 'original estimate' (which appears nowhere in our original assessment), the Commission has compared apples with oranges. The Commission, therefore, has no basis for inferring from the size of the 'difference' to imply that something is incorrect or that the results are unreliable.

## 2.3 The bottom line

The bottom line is that we estimated that the proposed reforms, to improve and streamline negotiation processes between airports and airlines, were likely to be cost effective even if one was to ignore the other more uncertain benefits:

- The reforms would be unlikely to increase (and more likely to decrease) the administrative and compliance costs relative to the status quo (base case);
- The reforms could potentially achieve additional direct benefits of up to $892 million (with the amount primarily depending on price elasticity, and the extent to which regulatory regime removes the excess profit); and
- The reforms are likely to lead to catalytic impacts and wider economic benefits associated with improved connectivity.

**Box 1:** Conservative estimate of the benefits

The uncertainties raised by Houston Kemp and the Commission are already directly acknowledged in our report. While the size of the benefits are sensitive to some assumptions, this sensitivity does not affect the directional conclusions of the analysis.

We provided a short note to the Commission that demonstrated this. In particular, we demonstrated how the key costs and benefits described in the report would be incorporated into a CBA. Given the uncertainty associated with some of the benefits we directly discount these (by 50%) to account for this.

For the purposes of this simplified, demonstrative assessment we assumed the following:

- Implementation costs for the ACCC and industry are as described in the evaluation report.
- The reduced administration costs associated with more timely negotiations are as described in the evaluation report.
- A further $23 million in administrative cost is incurred associated with a significant increase in arbitrations — While we do not consider that there is sufficient evidence to suggest that access to an FOA regime will encourage parties to seek arbitration as a "default. For the purposes of this simplified sensitivity analysis we have allowed for additional administrative costs for this. This figure would equate to over 23 FOA arbitrations in the next 15 years assuming each arbitration costs airlines, airports and the arbitrator, $1 million in total.
- For this simplified demonstration, we discounted all other direct benefits by 50%. Namely the dead weight loss and travel time savings estimates. This is to account for the uncertainty around the effectiveness of the regulatory remedies and how this will affect travel demand.
- The wider benefits associated with increases in trade and FDI, driven by improvements in connectivity, have not been included given they are inconsistent with a standard CBA assessment.

The table below summarises the values of the revised costs and benefits under these conservative input assumptions and the resulting outcomes. As demonstrated in the table the regulatory reforms would still deliver $445 million in net benefits with a benefit to cost ratio of 14:1.

**Table 1:** Summary of costs and benefits

| Costs and Benefits | NPV of Costs[5] | |
|---|---|---|
| Cost to the ACCC of implementing minor amendments to its monitoring approach | $2 million | As per report |
| Cost to airports from the introduction of an information transparency and disclosure regime | $9 million | As per report |
| Increase in costs associated with arbitrations | $23m | Additional cost item |
| **Total Cost** | **$34 million** | |
| Improved timeliness of negotiation | $34 million | As per report |
| Travel time saving (50%) | $410 million | Benefit discounted by 50% |
| Deadweight loss (50%) | $36 million | Benefit discounted by 50% |

[5] Assuming a 15 year evaluation period, and real discount rate of 7%.

| | |
|---|---|
| **Total Benefit** | **$479 million** |
| **Net Benefit** | **$445 million** |
| **Benefit to Cost Ratio** | **14:1** |

*Source: Frontier Economics*

# 3 OUR ASSUMPTIONS ARE REASONABLE

An analysis of the consumer welfare and connectivity impacts necessarily relies on assumptions about the difference in airport charges, and air fares, under the proposed remedies and the base case. The Commission considered some of these assumptions to be flawed and unreasonable.

We disagree with this view. In the sections that follow we describe the assumptions relating to the following in detail and describe the rationale behind these assumptions:

- the estimate of the airports' excess profits;
- the assumptions relating to how any reduction in excess profits would reduce aeronautical charges and
- pass through of the reduced aeronautical charges to passenger air fares.

While these assumptions were outlined in our original report (contained in Appendix A to the A4ANZ's submission on the issues paper) we wish to correct the Commission's misunderstandings of these assumptions here.

Under the base case, our analysis assumes that Australian airports with market power can be expected to set their charges above the efficient competitive level consistent with their pricing in the past. This is compared to pricing under the proposed remedies where it is assumed airport market power is constrained.

It is worth highlighting upfront, that the combined effect of all our assumptions cannot be consider unreasonable. Our analysis assumed that the proposed remedies would lead to an increase in total passenger demand of **1.9%** (see Box 2: below). Hardly a figure that is impossible to believe. We unpack the assumptions that underpin this in the sections that follow.

**Box 2:** The resulting increase in passenger demand under the proposed regulatory remedy

The key factor that drives our analysis is the expected increase in passenger demand under A4ANZ's proposed regulatory remedy. This is the result of removing our estimates of airport excess profits from airfares and estimating the resultant impact on demand.

The combined effect of all our assumptions cannot be consider unreasonable.

- Our analysis estimated that if all excess profits were removed from airfares this would result in an average increase in total passenger demand of **1.9%**.
- Using a slightly different methodology InterVISTAS, the AAA's advisor, estimated that a 10% decrease in airport charges could result in up to **a 1.2%** increase in total demand based on combining estimates of air fare elasticity with the proportion of airport charges contained in airfares[6].

InterVISTAS's estimate is not substantially lower than Frontier's. It is likely the difference is mostly driven by our assumptions that airport prices will fall by slightly more than 10% on average given we use actual data on the excess profits made by Australian airports (see**Table 2** below).

## 3.1 The excess profits of airports

### 3.1.1 Our profitability analysis differs from the Commission's, but this is not a deficiency

The Commission argues that "the monitored airports have not exercised their market power in setting aeronautical charges and as such there are no relevant excess profits to target through regulation."[7]

Unfortunately, the Commission's findings on airport profits are simplistic and fail to correctly characterise the fundamental economics of how airports behave. Moreover, its claims regarding confidentiality hindering a critique from other participants are odd in the context of many other submissions, including those from airports, which also contain confidential parts.

The Commission is correct in noting we assessed profitability across all airport services. However, it did not respond on our methodological concerns regarding a focus on the sole use of return on assets as a measure of economic returns.

### 3.1.2 Profitability must be assessed in respect to all airport services

The Commission's analysis of profitability and that prepared by HoustonKemp on behalf of the AAA has been undertaken based on only the aeronautical activities of the airport. We have assessed profitability across the airports' full range of operations. This is not an oversight.

An airport is akin to a multi-product monopoly or a multi-sided platform. Amongst other things an airport offers:

- aeronautical services to airlines;

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6 InterVISTAS, (2018), The Impact of Airport Charges on Airfares, prepared for the Australian Airports Association, p59 (source: https://www.pc.gov.au/__data/assets/pdf_file/0013/231430/sub050-airports-attachment3.pdf)

7 Productivity Commission (2019), *Economic regulation of Airports, Draft report*, p.282

- car-hire concessions to car-hire operators;
- retail concessions to retailers;
- car-parking services to passengers and
- property leasing for domestic airline terminals, hotels, business parks and industrial warehouses

We do not limit the assessment of returns to aeronautical activities because to do so would ignore the interdependency between the pricing of aeronautical and non-aeronautical services and would require arbitrary allocations of costs between activities.

Airports provide multiple complementary services using many common assets. A partial approach to assessing profitability, which focuses on only the monitored aeronautical services, will fail to assess or capture the full extent to which an airport is exploiting its market power. In other words, when analysing the market power of a multi-sided platform, one must acknowledge the externalities that exist between the various sides of the platform.

In the case of airports, no persons go to the airport to shop at retail concessions, or to hire cars or to park their cars. All services are fundamentally about providing airline passengers with a service that is complementary to the airline service.

Indeed, in a competitive airport market, airports would compete for airlines by offering lower aeronautical charges, which would allow airports to capture returns associated with providing further services to passengers.

The Commission shows little awareness or understanding of the economic literature which analyses such markets, and why this is important if one's goal is to understand market power and competition.

In particular, comments that airlines seek "cross subsidies" from non-aeronautical services is a fundamental misunderstanding of what cross subsidies mean in platform markets. As the Commission should be well aware, it is common in platform markets for one side of the market to be charged a zero (or even negative) price if that is the price that is required to drive customers to use the platform. This is not a cross subsidy but an efficient and profit-maximising response to the market characteristics. [8]

Frontier Economics prides itself on its independence. Our view, that airport market power assessments needs to consider profit across the whole of an airport's services[9] is not driven by a vested interest. In fact, as the Commission would be aware we provided advice to both A4ANZ and AFIA (who represent car hire companies) during this inquiry —parties that might be expected to have contrary view on any question of cross subsidy.

**What about profits earned on the wider set of activities of the airport?**

Recent speeches by Commissioners also throw in a "red herring" by claiming that the whole-of-airport approach "throws in" profits earned on activities that are not related to provision of services to airline passengers or freight services.[10] That would indeed be a concern – if it were true. But a glance at an

[8] It should not be implied from this that profits from non-aeronautical services constrain the exercise of an airport's market power as the airport will still be able to raise its bundle of prices above the competitive welfare, maximising level, irrespective of where excess profits are made. It is possible that an airport with market power may set a lower aeronautical charges if it expects as a result of this it will generate greater profit through its other activities. However, the level of the unconstrained monopoly airport charges (as a whole) will be higher that the level of the charges of an airport facing competition.

[9] Or ideally those services that are in some way interdepend on passenger air travel and air freight. This is commonly called a 'hybrid till'. This subtle distinction is not possible using ACCC monitoring data.

[10] Economic Regulation of Airports – the Commission's Draft Report Infrastructure Partnerships Australia Industry Lunch Sydney, Tuesday 19 March 2019 Paul Lindwall, Commissioner.

annual report of Sydney airports reveals that these activities are manifestly not important to their earnings and so no significant problems could occur.

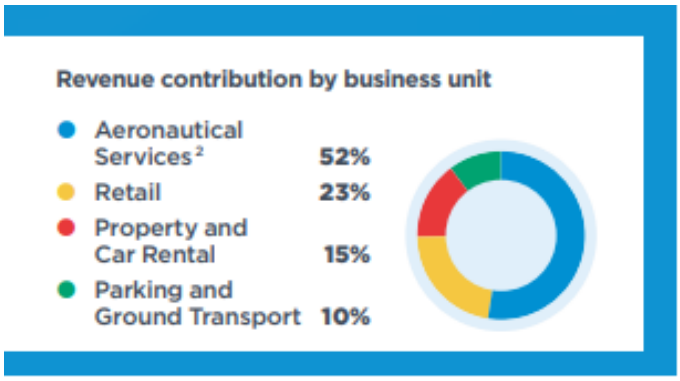
**Figure 1** below shows that at a minimum 85% of Sydney Airports' revenue is earned through activities that are directly complementary with air travel and air freight.

The remaining 15%, relating to the property and car rental business unit, is highly likely to include revenue from several services that are clearly complementary to passenger air travel or air freight. For example:

- car hire businesses
- domestic terminal leases[11] charged airlines
- hotels leases
- business parks and industrial park leases (a significant proportion of which is likely to be taken up by freight, airline or logistic businesses and used as back office support facilities)

This should not be surprising, as we would expect that business that derive value from being close to an airport (or in other words provide services that are in some way complementary to passenger air travel of air freight) are more likely to take up these leasing opportunities.

**Figure 1**: Revenue contribution by business unit at Sydney Airport




*Source: Sydney Airport, 2018 Annual Report, p5*

We see no reason to expect that the breakdown of revenues would look substantially different for the other monitored airports.

The Commission should acknowledge that recent developments such as the DFO at Perth Airport and plans for a wave parks at Melbourne Airport are exceptions. These amount to decisions by Airports to earn a commercial return on unutilised land. These exceptions do not undermine our analysis of profitability. The timing of these recent developments (or planned developments) means revenues from these sources are ultimately not captured in our profitability analysis.

**Proving the exercise of market power under a partial assessment approach will be impossible, regardless of airport behaviour**

Aside from the conceptual problems with the Commission's approach, a major problem is that it makes it essentially impossible for the Commission to ever find monitored airports are exercising their market power even if they are blatantly doing so. This is because the Commission does not consider any

[11] As noted by the Commission this revenue is not incorporated into aeronautical revenue (see Box 5.1 of Productivity Commission (2019) Draft inquiry report).

evidence relating to returns earned across non-aeronautical services, but must rely on partial measures which have no obvious benchmarks for competitive or efficient prices.

For example:

- The Commission's analysis suggests that car parking prices at Airport Terminals are higher than the benchmarks provided, but then finds itself unable to conclude much on the basis of this evidence, given the challenges of defining an appropriate benchmark.
- Although disappointingly not included, or indeed referenced in the report, the Commission also received evidence that suggests charges to car rental operators at Australian airports result in costs per transaction that are commonly 3 to 5 times higher than charges at downtown locations. Benchmarking completed on behalf of AFIA also showed all 14 Australian airports measured have higher charges than every US Airport considered (8 in total). Consumers bear the brunt of these high charges, with as much as $30 out of every $100 dollars paid to a car rental operator flowing straight through to airports[12].

We can only presume the Commission is concerned about the reliability of the benchmarks for these charges and so considers itself unable to draw conclusions from this data. The Commission seeks more information on these activities. But in reality there is essentially no information any participant could produce which could convince the Commission because it has not laid out any clear benchmarks for pricing. Assessing an airport's profits as a whole, against the airport's opportunity cost of capital, is the only way to address the impossible challenge of assessing discrete airport charges that might quite rationally be set with no clear reference to costs.[13]

Contrary to the AAA's view we consider there is a point in debating the issue around how to assess airport profits further. This is not, and nor should it be, a settled matter of public policy in Australia. While the aeronautical pricing principles mandate a dual till approach, this does not correspond to how the Commission should undertake its assessment of the exploitation of market power.

## 3.2 The percentage reduction in aeronautical charges

The first step in our analysis of the regulatory remedies involved converting the excess profit earned by the monitored airports, as discussed above (and as identified in our companion analysis of profitability[14]), into a percentage reduction in airport charges. These are the charges that would be required in order for the airports' returns to equal to the opportunity cost of capital (the WACC).

The rationale behind this was that we were looking to compare:

- the base case — which assumes that airports set charges consistent with their pricing in the past
- against charges that may exist under the proposed remedies — where it is assumed airport market power is constrained such that its profits equal that required by financiers given the riskiness of the asset (i.e. the WACC).

In our analysis of Airport profitability (both the confidential and truncated public version), we used a number of methods to assess profitability – in line with the economic literature. The primary method we

12 Submission 67, Australian Finance Industry Association Limited (AFIA) - Economic Regulation of Airports - Public inquiry

13 Furthermore, a focus on aeronautical profits will fail to account for the degree to which market power exploitation in non-aeronautical services can also affect passengers or air freight demand. For example, it seems reasonable to assume that passengers, in deciding whether to fly, take some account of the full costs of travel. This would include the costs of parking their car (or alternatively catching a taxi), the costs of drinks and food purchased at the airport and at the other end of the journey the costs of hiring a car or in some other way getting to their final destination. Airports have the capacity to levy charges or collect revenue from intermediaries in way that effect prices for all these activities.

14 Frontier Economics (2018) "The profitability of Australian price monitored airports", prepared for A4ANZ [confidential].

used wto calculate an airport's excess profits involved calculating an internal rate of return (IRR) and comparing this with an estimated WACC based on taking a view of a conservative view of a regulators likely approach to estimating this.

For example, for Sydney Airport we calculated a difference of 3.8% between the IRR and an (average) WACC (pre-tax, nominal) over the period 2002-2016. Therefore, under the proposed remedies we are assume that all of the airport's prices will be reduced to the point where its prices (and revenue) now deliver an IRR in line with the WACC[15]. Note that the Commission appears to have incorrectly assumed that we applied all of the excess profit reduction to aeronautical prices – this is not the case rather we reduced all prices equally.

A secondary method used was an estimate of the Tier 1 Airports' return on assets (EBIT / total assets). We have computed this annually from 2007. If we chose a recent year, we could compute the reduction in revenues necessary so that earnings are consistent with a return on assets equal to the cost of capital. Again this assumed that, in the alternative, prices of all services would fall by the same as revenues.

The results of these two calculations for the four airports subject to monitoring – over the period 2002-2016 (Sydney) and 1998-2016 (Melbourne, Brisbane, Perth) is presented in **Table 2**.

**Table 2:** Implied range of price reductions required to achieve return = WACC

| SUMMARY | PRICE REDUCTION (IRR) – UPPER BOUND | PRICE REDUCTION (ROA) – LOWER BOUND |
|---|---|---|
| Sydney | 31% | 37% |
| Melbourne | 43% | 24% |
| Brisbane | 10% | 9% |
| Perth | 15% | 13% |

*Source: Frontier Economics analysis using confidential profitability analysis.*

It is worth highlighting that we did not assume a fixed average price reduction across airports. Instead these price reductions were based on the profitability analysis. By way of example for Perth:

- A 15% reduction in revenues/prices across the period 2002-2017 would result in Perth's IRR = WACC.
- A 13% reduction in revenues/prices in the 2017 year would result in Perth's ROA = WACC.

15 Note the IRR is calculated using cash flows rather than prices, and we do not have volumes by which we could simply back out price changes (that is, cash flows are a function both of prices and volumes). Of course, there are potentially a range of alternative price paths that could have produced the IRR equal to the WACC. We calculated the percentage by which the positive annual (and final) cash flows would need to reduce to produce an IRR consistent with earning the opportunity costs of capital. It should be noted that this implicitly assumes charges do not impact on volumes – so that at the assumed lower price path, revenues and cash flows would fall by the same amount as prices.

**Box 3:** The difference between the confidential and public versions of our profitability analysis

Frontier Economics prepared for A4ANZ both a confidential and non-confidential version of our profitability analysis. The fundamentals of the approach and data used in both pieces of analysis was the same, other than estimates of the WACC. Our evaluation of the A4ANZ proposed regulatory remedies was based on the confidential version of our profitability analysis.

The difference between the two version was ultimately immaterial to the analysis as the estimates of excess profit by airport and hence the difference between the IRR estimates and the WACC were not substantially different. To illustrate this point, we report the results of the excess profits analysis for the latest available year (2017-18) using the AAA's WACC methodology.

| Airport | Price reduction (IRR) | Price reduction (ROA) |
|---|---|---|
| Sydney | 26% | 32% |
| Melbourne | 43% | 20% |
| Brisbane | 9% | 4% |
| Perth | 24% | 9% |

While there are some differences between these figures and those in our analysis (see table 2 above), they are not substantial.

The Commission noted that the truncated, non-confidential version of our profitability analysis did not include the estimates of each airport's excess profits, only an aggregate figure. This is true; however, this is merely an alternative presentation of the same result, and these values were not used directly to estimate the changes in airport charges. Rather it was the percentage reductions shown above that were used and subsequently applied to estimates of aeronautical revenue per passenger (as a proxy for the aeronautical charges incurred by airlines).

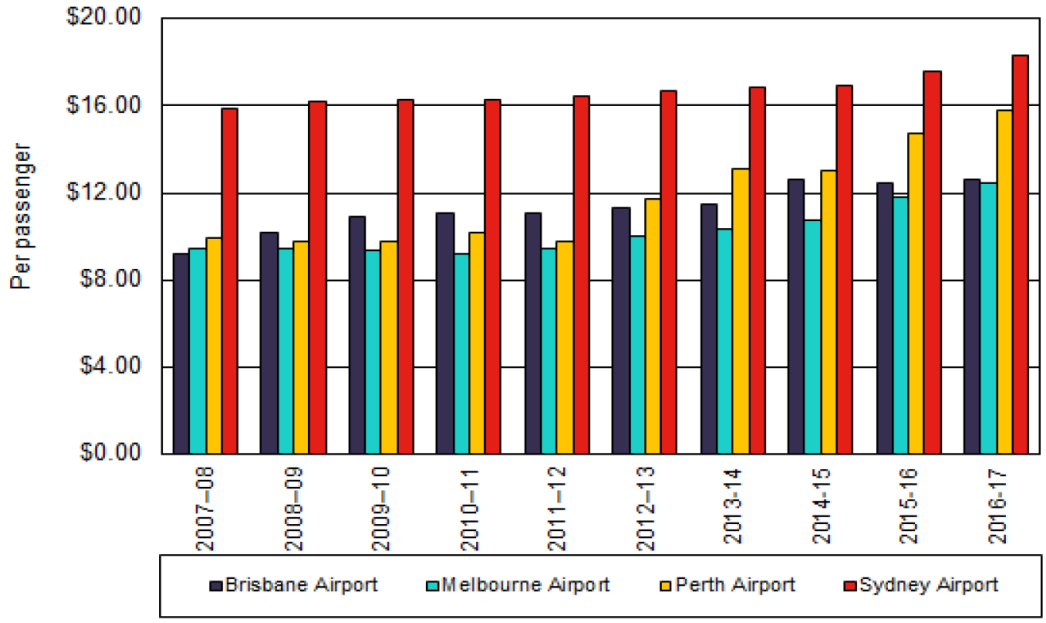
For completeness, we note that the Commission's conclusions that our analysis would force airports to "cross-subsidise" aeronautical charges with profits from car parking and other non-aeronautical activities is false. In fact, we do not have a view on which airport charges may fall under a more effective negotiate arbitrate regime. It is difficult to precisely envisage how changes to the regulatory regime, that remove excess profits may affect the various airport charges. Instead we have allocated the excess profit to reducing all charges proportionately as a means of simplifying the analysis.

## 3.3 Converting the percentage price reductions in aeronautical charges to absolute reductions

The next step in our analysis involved converting the percentage reduction in aeronautical charges to an absolute reduction per passenger.

We applied the upper and lower bound percentage reductions in price (see **Table 2**) to what was, at the time, the most recent ACCC estimates of average aeronautical revenue per passenger at the four airports above. This is based on the figure below from the ACCC.

**Figure 2**: Aeronautical revenue per passenger in real terms: 2007–08 to 2016–17




*Source: ACCC: Airport Monitoring Report 2016–17 April 2018. Figure 2.3.1*

This resulted in a range for the reductions in aeronautical revenue per passenger in absolute terms in **Table 3** below.

**Table 3:** Assumptions around absolute reduction in aeronautical revenue per passenger

| SUMMARY | LOWER BOUND | UPPER BOUND | MID-POINT |
|---|---|---|---|
| Sydney | $5.6 | $6.7 | $6.2 |
| Melbourne | $3.0 | $5.3 | $4.2 |
| Brisbane | $1.1 | $1.3 | $1.2 |
| Perth | $2.0 | $2.4 | $2.2 |
| | | | |
| Minimum | $1.1 | $1.3 | $1.2 |

*Source: Frontier Economics analysis*

In our connectivity and catalytic impact analysis we have used the 'mid-point' reduction to produce our base case set of results, and have used the upper and lower bound estimates as a sensitivity to produce a range. We have assumed that these reductions in aeronautical revenue per passenger would lead to an equivalent reduction in the airport charges per passenger incurred by the airline.

We have also assumed that the minimum estimate reported in **Table 3** above would also apply at the five other airports included in the analysis. Namely Adelaide, Gold Coast, Cairns, Canberra and Hobart.

In other words, aeronautical charges incurred by an airline (on a per passenger basis) would reduce at these airports by between $1.1 and $1.3 at these airports.

By way of example, the total airport charges incurred by an airline for a passenger making a return journey between Sydney and Perth would fall by $16.80[16] due to:

- reductions in the airport charges at Sydney — assumed to be $12.40 using our mid-point estimate (i.e. 2 x $6.2); and
- reductions in the airport charges at Perth— assumed to be $4.40 using our mid-point estimate (i.e. 2 x $2.2)

It is here that the Commission makes an error in assessing our analysis which we highlight in Box 4:

**Box 4:** Assumed reductions in airport charges incurred by airlines

The Commission suggests that we assumed that domestic aeronautical charges at Sydney Airport would fall from $15.09 to $2.69; and at Melbourne Airport from $10.43 to $2.03. Noting that this "is simply not credible". We agree.

However, this is not what we have assumed. We have not attempted to estimate the fall in domestic landing charges in our analysis. Instead we have looked at how all the aeronautical charges incurred by an airline would decrease (on a per passenger basis).

Therefore, we have used the ACCC's estimates of average revenue per passenger as outlined in the Airports monitoring report. The ACCC calculates the per-passenger figures by dividing the aeronautical revenue reported by the airport by total passenger numbers (as opposed to departing passengers). This means a return passenger would generate two times the aeronautical revenues per passenger (shown in figure 2 above) at both the airport it is departing from and arriving at. This would equate to an estimate of the aeronautical charges incurred by the airline for this passenger.

## 3.4 Converting reductions in aeronautical charges into airfares

We then applied these reductions in aeronautical charges per passenger to estimate new average ticket fares per passenger for each individual route to/from the airports considered in the analysis[17]. We used data on ticket fares at the route level from OAG Traffic Analyser.

The data from OAG already includes airports charges within the estimate of ticket fare. However, it does not include taxes. We therefore added on GST for passengers flying to short haul destinations and have added $60 for passengers flying to long haul destinations (the 2017 Passenger Movement Charge[18]).

In adopting this approach, we made a high-level assumption that a decrease in airport charges would be passed through to passengers in full in the form of lower ticket fares. We do not think this is

16 In reality, airports tend to charge airlines on the basis of departing passengers only. As a result, the figures in Table 3 need to be converted in average revenue per departing passenger. Assuming there are half as many departing passengers as total passengers then the to deliver the reductions in average revenue per passenger presented above there would need to be a reduction average revenue per departing passenger of twice the size.

17 Namely, Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast, Cairns, Canberra and Hobart.

18 https://www.homeaffairs.gov.au/trav/ente/goin/departing/passenger-movement-charge-(PMC)

unreasonable. This was a decision expressly taken to simplify the analysis and one which we considered reasonable in the context of this analysis — analysing how airlines might respond to lower airport charges and what this might mean for connectivity and route viability.

We agree with InterVISTAS, one of the AAA's advisors, when they describe the key policy question as being whether airport charges are having a negative impact on the level of aviation activity and hence economic welfare. [19]

*"Airports charge airlines various fees to cover their costs. Airport charges paid by airlines in turn become part of their cost base. The impact of changing airport charges on aviation activity thus becomes a key question - are changes in airport charges in Australia having a negative impact on the level of aviation activity and economic welfare more generally? Or, more to the point, would policy measures designed to restrain airport charges actually lead to net benefits to consumers and the economy more broadly?"*

This is a question about connectivity which reflects the purpose of our analysis being discussed here.

InterVISTAS did not attempt to answer this question that they posed. Instead they went on to focus on whether airport charges are disproportionately impacting airfares. The problem with narrowing the focus of the analysis, to the extent of cost pass through, is that it presumes the costs, that are not passed through, play no part in an airline's servicing decision.

From an airline's perspective the viability of its services to or from an airport are affected by the profitability of these services which is in turn affect by the costs incurred from servicing this airport. We consider that an airline can be presumed to increase the number of routes or services offered if there is a change in airport charges that is either:

- passed through directly and results in lower airfares — which increases demand thereby making the route/service more viable from an airlines perspective.
- not passed through, but that reduces the airline costs per flight— as this will make previously marginal routes or services now profitable;

Therefore, given the purpose of this analysis the extent to which airport costs are passed through to airfares is merely a diversion and one that does not have a hugely significant effect on the outcomes we are interested in.

Box 5: provides more detail behind the rationale for the cost pass through assumption adopted in our analysis and why we do not think this affects the credibility of the analysis.

**Box 5: The cost-pass through assumption**

As we have stated previously, there is no economic theory that supports an *a priori* assumption about the extent of cost pass-through. We noted expressly in our economic evaluation report that the exact amount of pass through will depend on the nature of charge (fixed or variable), demand and the competitiveness of the air travel on any route.

[19] InterVISTAS, (2018), The Impact of Airport Charges on Airfares, prepared for the Australian Airports Association, p5 (source: https://www.pc.gov.au/__data/assets/pdf_file/0013/231430/sub050-airports-attachment3.pdf)

Assumptions about cost pass through are important when formally assessing pricing outcomes; however, it is less critical when used as an input into the connectivity analysis. It should be remembered that the focus of this analysis was in considering how airlines might respond to lower airport charges and what this might mean for connectivity and route viability.

Our decision to assume that falls in aeronautical charges are passed through 100% to lower airfares was not an oversight. While it is well known that reductions in fixed costs do not reduce prices, they do affect entry decisions (i.e. how many airlines service a route). Therefore, even a fall in fixed aeronautical charges will be beneficial to passengers if it drives new connectivity, regardless whether this comes directly through lower fares or through lowering the fixed costs incurred by airlines. To simplify the analysis and in the absence of better evidence, we assume 100% pass through.

This can be illustrated through a simple example. Suppose we assume zero pass through of lower airport charges to airfares. This would still reduce an airline's costs of servicing an airport i.e. a lowering of airport charges will reduce the costs of airlines, making routes to/from the airport in question more viable. Similarly, if we assume 100% pass through of airport charges to airfares the fall in airport charges will increase demand, thereby making the route more viable from an airline's perspective.

*Source: Frontier Economics*

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