Attachment 2

HOUSTONKEMP
Economists

Economic evaluation of A4ANZ's regulatory proposals – a review

A report for the Australian Airports Association

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Disclaimer

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Executive Summary

This report has been prepared for the Australian Airports Association (AAA) in the context of its participation in the Productivity Commission's (PC's) 2018 inquiry into the economic regulation of airports (the PC inquiry). The inquiry's terms of reference ask the PC to investigate whether the economic regulation of airport services promotes the efficient operation of airports, with the focus being the provision of passenger and freight services at the main passenger airports in Australia's major cities.

The PC invited submissions from interested parties by 3 September 2018, for which it also released an Issues Paper in July 2018. An aviation industry group, Airlines for Australia and New Zealand (A4ANZ), made a lengthy submission to the PC, setting out the case for significant changes to the existing economic regulatory regime. The essence of A4ANZ's proposed changes is for the introduction of:

- 'an information transparency and disclosure regime', involving a wider scope of pricing parameters – such as a recommended allowed rate of return – than apply under the existing monitoring regime;
- a final offer arbitration (FOA) regime for settling unresolved disputes between airports and airlines in relation to the terms by which aeronautical services are provided; and
- minor amendments to the existing ACCC monitoring regime.

A4ANZ's proposed changes are accompanied by reports prepared by Frontier Economics (Frontier) and a report from Monash University transport Teaching Fellow, Margaret Arblaster.

Our report reviews the economic analysis and reasoning underpinning those elements of report by Frontier and Ms Arblaster that involve an economic evaluation of A4ANZ's proposed changes to the existing regulatory regime.

Our review finds that, in relation to market power of the major airports:

- Frontier's market power assessment is inherently limited by its adoption of a 'structural only' approach;
- the benchmarking of the profit margins of the major airports with international comparators is apt to mislead;
- in Frontier's reported analysis and finding of 'excess profitability' of the major airports, the economic rationale for considering the value of profits 'accruing to government [as seller of the airport leases] and captured in the sale prices' is unclear;
- Frontier's assessment does not appear to take into account any constraint that may arise from the existing regulatory arrangements applying to airports; and
- the mild nature of the conclusion drawn in Frontier's market power report contrasts significantly with subsequent claims made by both Frontier and A4ANZ as to the extent to which airports are using their market power.

In relation to the suitability of A4ANZ's proposed regulatory regime, our analysis of the economics literature and case studies shows that FOA may be a suitable mechanism for resolving pricing disputes where:

- the dimensions of a dispute are limited, ideally to price alone;
- the relevant product or service does not involve any significant degree of discretion as to the dimensions of quality by which it is provided;
- the scale of the dispute is relatively low, say, as compared with the total revenue, costs (including opportunity costs) and/or sophistication of at least one of the respective parties;
- there is likely to be a significant number of other, perhaps similar transactions that may be available for use as market price benchmarks by one or both parties; and

- there is no strong relationship between the particular price that is to be determined and a cost recovery objective.

By contrast, the FOA method for dispute resolution is likely to be unsuitable where:

- there are multiple or complex dimensions that are subject to dispute;
- the scale of the matters in dispute is relatively high, as compared with the total revenue, costs (including opportunity costs) and/or sophistication of the respective parties;
- there is a limited number of similar transactions that may be available for use as market price benchmarks by one or both parties; and
- there is a strong intended relationship between the price that is to be determined and a cost recovery objective.

Accordingly, FOA is unlikely to be appropriate for airport-airline disputes, since:

- airport charges are set to recover the efficient costs of providing aeronautical services;
- airport-airline disputes tend to be complex and multi-dimensional;
- both airports and airlines are large, sophisticated parties; and
- the existence of a sector-specific arbitration process may represent inherent risks to the commercial negotiation process itself.

Consistent with these observations, we note that A4ANZ's economic advisor, Margaret Arblaster, suggests that FOA not be adopted when disputes are complex, as is the case between airlines and airports.

In relation to Frontier's claimed benefits and costs saved through adoption of the proposed regulatory regime:

- Frontier makes several unreasonable but critical assumptions, including that:
  - the proposed regime will fully account for all its estimate of excess profits without any possibility of regulatory error;
  - reductions in total airport profits will be derived entirely from reductions in airport charges; and
  - its assumed reductions in airport charges will be completely (ie, 100 per cent) passed through to consumers in the form of cheaper air fares;
- Frontier misrepresents *transfers* of profits from airport shareholders to consumers as a benefit to the Australian economy when, in fact, Frontier's own assessment implies that the economic benefit of its assumed reductions in airport charges is approximately one per cent of the total projected increase in consumer surplus; and
- the calculations by Frontier of 'additional benefits' of regulation appear to rely on unsuitable estimates and unreasonable assumptions.

1. Introduction

This report has been prepared for the Australian Airports Association (AAA) in the context of its participation in the Productivity Commission's (PC's) inquiry into the economic regulation of airports (the PC inquiry). The inquiry's terms of reference ask the PC to investigate whether the economic regulation of airport services promotes the efficient operation of airports, with the focus being the provision of passenger and freight services at the main passenger airports in Australia's major cities.

The PC invited submissions from interested parties by 3 September 2018, for which it also released an Issues Paper in July 2018. An aviation industry group, Airlines for Australia and New Zealand (A4ANZ), made a lengthy submission to the PC, setting out the case for significant changes to the existing economic regulatory regime. The essence of A4ANZ's proposed changes is for the introduction of:

- 'an information transparency and disclosure regime', involving a wider scope of pricing parameters – such as a recommended allowed rate of return – than apply under the existing monitoring regime;
- a final offer arbitration (FOA) regime for settling unresolved disputes between airports and airlines in relation to the terms by which aeronautical services are provided; and
- the making of minor amendments to the existing ACCC monitoring regime.

A4ANZ's proposed changes are accompanied by two reports prepared by Frontier Economics (Frontier), and a report from Monash University transport lecturer, Margaret Arblaster. Those reports are:

- a Frontier report entitled '*The market power of Australian airports*';
- a further Frontier report entitled '*Economic evaluation of an alternative approach to airport regulation*'; and
- a report by Margaret Arblaster, former officer of the ACCC and Teaching Fellow at the Institute of Transport Studies, Monash University entitled '*Report on the policy framework for economic regulation of airport services in Australia*'.

A4ANZ also draws on the findings of a third report by Frontier entitled '*The profitability of Australian price monitored airports*'. This report is not attached to A4ANZ's submission, although it does appear to have been provided to the PC.[1] We understand that A4ANZ is unwilling to make this report available for interested parties to review even though, by its nature, such a report is unlikely to contain confidential material. Our ability to review and evaluate the robustness of this report is therefore limited to what can be gleaned from references to it in related Frontier and A4ANZ documents.

AAA has asked us to review the economic analysis and reasoning underpinning those elements of these reports that support the economic evaluation of A4ANZ's proposed changes to the existing regulatory regime. The elements of these reports that bear upon the proposed changes and Frontier's economic evaluation of them are:

- Frontier's conclusions in relation to both the market power of airports and the extent of excess profits that are said to arise from that market power;
- Ms Arblaster's findings in relation to the economic properties of FOA; and
- Frontier's evaluation of the economic benefits of the proposed reforms, in light of the findings on market power and FOA.

[1] Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 15, footnote c.

Separately, in an earlier report we prepared for the AAA and submitted to the PC, we demonstrate that the monitored airports have complied with the government's pricing principles and have not earned excess returns from the provision of aeronautical services.[2] Further, in separate reports prepared for each monitored airport we conclude that there is no evidence to suggest that the airports have exercised market power in relation to car parking and ground access services.[3]

The remainder of this report describes the outcome of our review of A4ANZ's proposed regulatory scheme, and is structured as follows:

- in section 2 we describe the essential findings of the economic evaluation undertaken by Frontier, the critical inputs to this assessment and the analysis and reasoning on which its findings depend;
- in section 3 we assess Frontier's 'market power' report and its claims;
- in section 4 we assess the 'Final offer arbitration' component of Frontier's evaluation; and
- in section 5 we assess Frontier's economic evaluation itself, having regard to our findings in relation to the above two critical inputs.

[2] HoustonKemp, *Assessing market power in aeronautical services: a report for the Australian Airports Association*, September 2018.

[3] See, for example, HoustonKemp, *Car parking and ground access – market power assessment: a report for Melbourne Airport*, August 2018.

2. Frontier's findings, critical inputs and reasoning

In this section we identify the critical inputs to the economic evaluation undertaken by Frontier, its essential findings, and the analysis and reasoning on which its findings depend.

2.1 Market power assessment

Frontier applies a 'structural only' assessment of airports' market power, and concludes that the airports have market power across the bundle of aeronautical and non-aeronautical services provided by them.

Frontier contends that such market power has been exercised since privatisation, amounting to 'excess returns' that, if corrected and applied to aeronautical charges alone, would give rise to a reduction of up to 43 per cent of existing aeronautical charges.[4]

The conclusion of Frontier's structural analysis of market power is modest and unexceptional – it simply finds there are few circumstances where a particular form of constraint applies. Frontier makes no finding of 'substantial market power', being is the usual legal standard for intervention by means of competition law enforcement or regulatory measures to control market power.

This mild nature of the conclusion drawn in the first Frontier report contrasts with the strength of the subsequent claims made by both Frontier and A4ANZ as to the extent to which airports are using their market power.

Little is revealed about Frontier's excess profits report, beyond that it:

- evaluates the accumulated profits of Australian airports, as compared with a sample of international airports;
- makes this assessment by reference to the entire operations of those airports, rather than with a focus on the aeronautical services for which any market power conclusion is most likely to hold; and
- considers profit measures expressed in terms of total return on capital, and EBITDA margins.

There are also references to excess profits generated by means of the lease transactions that took place around twenty years ago, although it is unclear on what basis any such assessment might sensibly be made.

We discuss Frontier's market power assessment in detail in section 3.

2.2 Final offer arbitration regime

The centrepiece of A4ANZ's three-pronged regulatory reform proposal is the introduction of an FOA mechanism, under which disputes between airports and airlines would be settled by means of FOA.[5]

The other elements (information disclosure, allowed rate of return guidance, and the tweaking of the monitoring regime) are only vaguely specified, and appear to have a supporting role in the proposed reform.

[4] See Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 54.

[5] It is unclear whether, under A4ANZ's proposed regime, FOA is the mandatory form of arbitration or simply an option available to the ACCC as part of an arbitration process. A4ANZ states that access to FOA would be expected to occur when parties cannot agree while negotiating 'any agreement concerning the use of the airport's facilities or services or concerning the conditions, or the amount to be paid for that use' (Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 47). For the purpose of our review we assume that, under A4ANZ's proposed regime, FOA is the mandatory arbitration mechanism. To the extent this may not be the case, then the nature of Frontier's claimed benefits would change, as would our critique of the proposal.

Frontier provides a brief economic evaluation of the suitability of FOA for airports, and claims that it is designed to encourage genuine negotiation, rather leading to an excessive reliance on arbitration.[6, 7]

Frontier also claims that airports and airlines would make limited use of the FOA regime, with no increase in administrative and compliance costs, but that it would nevertheless bring about a more timely resolution of negotiations and therefore decrease costs of negotiation (by 20 per cent).

Finally, Frontier assumes that FOA would cause its estimate of excess profits across the entire bundle of airport services to be eliminated, with this resulting in an across-the-board reduction in aeronautical charges for nine airports, ie, the four major airports subject to the existing monitoring regime, plus Adelaide, Cairns, Canberra, Gold Coast and Hobart.[8]

We discuss important aspects of these policy responses, being the movement away from a dual till approach and the FOA regime, in sections 3.2 and 4, respectively.

2.3 Economic benefits of proposed alternative approach

The contentions we describe above are then used as inputs for its economic evaluation of the proposed alternative approach to airport regulation.

The critical input assumptions to Frontier's economic evaluation are:

- the duration of negotiations would fall materially, thereby reducing the resource costs associated with negotiating agreements, representing 20 per cent of estimated current costs;[9]
- the full and complete transfer of all assessed excess profits across the bundle of airport services into reduced aeronautical charges[10] – in other words:
  - appears to apply a single till approach to the setting of aeronautical charges; and
  - returns for all non-aeronautical activities limited to that commensurate with the assessed risk of aeronautical services; and
- the reductions in aeronautical charges would be passed on in full by airlines, in the form of lower airfares for passengers.[11]

The economic benefits that are said to arise under these assumptions are then assessed to be:

- on the cost side, $23 million in NPV terms across 15 years of resource cost savings through across-the-board, shorter negotiation periods;[12]
- on the demand or output side, approximately $8 million per annum,[13] amounting to $73 million in NPV terms across 15 years, of benefits in increased air passenger transport services, ie, the economic value added through additional flights taken, as measured by:
  - the value of those flights in to passengers; net of
  - the economic cost of providing those flights – this is known as the avoided dead weight loss.

In addition, Frontier claims a range of other forms of 'economic benefit', ie:

[6] Frontier Economics, *The market power of Australian airports*, September 2018, p 14.
[7] Frontier Economics, *The market power of Australian airports*, September 2018, p 22.
[8] Frontier Economics, *The market power of Australian airports*, September 2018, p 53.
[9] Frontier Economics, *The market power of Australian airports*, September 2018, p 39.
[10] Frontier Economics, *The market power of Australian airports*, September 2018, pp 53-54.
[11] Frontier Economics, *The market power of Australian airports*, September 2018, p 29.
[12] Frontier Economics, *The market power of Australian airports*, September 2018, p 6.
[13] Frontier Economics, *The market power of Australian airports*, September 2018, p 31.

- $639 million per annum in the transfers of excess profits from airport shareholders to consumers, being airline passengers, which amounts to $5.8 billion in NVP terms;[14] and
- the flow on effects of these benefits would give rise to:[15]
  - travel time savings of $820 million of an NPV basis, through increased direct connections between passengers' origin and destination ports;
  - GDP expansion of $10.9 billion in NPV terms, representing 7,000 new jobs; and
  - various other unquantified benefits including agglomeration effects and increased competition throughout the economy.

Finally, we note that Frontier implicitly assumes that all of the above benefits can be achieved without any detriment to investment, quality or any other aspect of aeronautical services.

We discuss Frontier's economic evaluation in detail in section 5.

[14] Frontier Economics, *The market power of Australian airports*, September 2018, p 31.

[15] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation: report prepared for A4ANZ*, September 2018, pp 39-40.

3. Market power assessment

The central thesis of A4ANZ's submission to the PC Inquiry is that the current regulatory regime is not fit for purpose. A4ANZ states that the airports are natural monopolies that exploit their market power, have no incentive to reduce their exploitation of market power, and that the current regulatory system has been 'powerless to curtail airports' market power'. Evidence presented to the PC by the AAA, its members and others stands contrary to these claims.

We note in section 1 that A4ANZ draws on various reports from Frontier for its central contentions. The relevant Frontier reports address:

- the market power of Australian airports;[16]
- the profitability of Australian price monitored airports; and
- economic evaluation of an alternative approach to airport regulation.[17]

In this section, we provide a critique of these reports, focusing on:

- the 'structural only' assessment of market power;
- the 'bundled' approach to assessing profitability at those airports; and
- the mild nature of the conclusion drawn in the first Frontier report, and the contrast between that and subsequent claims made by both Frontier and A4ANZ as to the extent to which airports are using their market power.

3.1 Frontier's structural framework for assessing market power

Frontier's first market power report is – by its own acknowledgement – a 'structural only' assessment of airports' market power. In that assessment, Frontier observes that the degree of both supply-side and demand-side substitution is limited, barriers to entry are high and that the countervailing power of airlines is low – all because of the relative inability of passengers and airlines to switch away from using a particular airport. Frontier's assessment does not appear to take into account any constraint that may arise from the existing regulatory arrangements applying to airports.

We observed earlier that Frontier does not conclude that any of the airports have a substantial degree of market power. Rather, its report states that:[18]

> …in short, we find that there are very few circumstances where an Australian airport may face a significant competitive constraint on its market power

Further, in undertaking its structural only assessment, Frontier describes the challenges associated with adopting conduct and performance-based measures of market power as including that:

- the price of a service charged to any particular airline at a point in time will be driven by a wide set of issues related to capacity, quality, level of services and revenue generated through complementary activities;
- profitability assessments must be made over long periods of time; and

[16] Frontier Economics, *The market power of Australian airports: a report prepared for A4ANZ*, September 2018.

[17] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation: report prepared for A4ANZ*, September 2018.

[18] Frontier Economics, *The market power of Australian airports: a report prepared for A4ANZ*, September 2018, p iii.

- prices ought to be compared to some form of benchmark, such as the efficient long-run cost, and/or a reliable benchmark of pricing by efficient comparators.

3.1.1 Focus on market power is misguided

The question of whether major airports hold a degree of market power – and whether substantial or not – is not the focus of the PC inquiry.

In an earlier report we prepared for the AAA assessing the extent to which the monitored airports may be exercising any market power, we take it as given that the four monitored airports each possess a degree of market power in the provision of aeronautical services.[19]

Rather, the focus of the PC's inquiry is the extent to which the existing price and service quality monitoring regime and its associated arrangements is functioning effectively as a means for curbing the intrinsic market power of the four monitored airports. The terms of reference (TOR) for the inquiry state that:[20]

> the Commission should report on the appropriate economic regulation of airport services, including the effectiveness of the price and quality of service monitoring, in achieving the following objectives:
>
> - promoting the economically efficient operation of, and timely investment in, airports and related industries
> - minimizing unnecessary compliance costs
> - facilitating commercially negotiated outcomes in airport operations.

Consistent with this scope, the Commission is explicitly asked to consider: [21]

> whether the existing regime is effective in appropriately deterring potential abuses of market power by airport operators

It follows that a 'structural only' framework for assessing airport market power – particularly where the potential constraints imposed by the existing regulatory framework are overlooked – offers little by way of insight into the matters before the Commission. Of more assistance would be a framework for evaluating whether aeronautical services are being provided in in accordance with conduct and market performance that would be expected under a workably competitive market. Such a conclusion would then allow inferences to be drawn on the extent to which the current regulatory framework is or is not functioning effectively.

In contrast, our aeronautical services market power report for the AAA focuses squarely on whether prices or profits have been significantly above the workably competitive level over a sustained period. We find that none of the four monitored airports have set prices or achieved levels of profit that can be said to reflect the exercise of any market power. In separate reports for each monitored airport, we show that there is no evidence to suggest that the airports have exercised market power in relation to car parking and ground access services.[22]

3.2 Bundle of airport services and profitability measures

Frontier states that its market power analysis should be undertaken 'across the bundle' of airport services, where this bundle includes both retail leases and ground access services as well as aeronautical services.

[19] HoustonKemp, *Assessing market power in aeronautical services: a report for the Australian Airports Association*, September 2018, p 1.

[20] Morrison, S, *Inquiry into the economic regulation of airport services*, Terms of reference, 22 June 2018.

[21] Morrison, S, *Inquiry into the economic regulation of airport services*, Terms of reference, 22 June 2018.

[22] See, for example, HoustonKemp, *Car parking and ground access – market power assessment: a report for Melbourne Airport*, August 2018.

Although Frontier acknowledges that some non-aeronautical services may be subject to competition from off-airport providers, it sweeps away the implications of this possibility by contending that:

- airports may also use their control of these facilities to frustrate competitors; and
- that substitution in an airport's non-aeronautical activities may only occur because prices may already reflect the airport's exercise of market power, referring to this latter point as the 'cellophane fallacy'.

By virtue of these 'in principle' observations, Frontier allows itself to draw conclusions as to market power that are far broader than can be justified on supposition alone.

Rather, in circumstances where market power in one market may be leveraged to create market power in another, the proper course would be for Frontier to have conducted a separate analysis of the structure, conduct and performance of each relevant market.

Further, one consequence of Frontier's preferred approach of considering services as a bundle is the (de facto) adoption of a single till paradigm for the economic evaluation of airport services.

The debate of whether a dual or single till form of assessment (and, potentially, regulation) should be applied to airport services is neither new nor specific to Australia. The AAA briefly discusses the dual or single till debate in its submission to the PC inquiry.[23] The PC has previously concluded that such a framework is unlikely to deliver efficient outcomes:[24]

> … mandating the transfer of non-aeronautical rents is likely to discourage development by the airport of both aeronautical and non-aeronautical services, generating large efficiency losses in the long run. Indeed, reversion to a regulated single till, even on a partial basis, could stifle the risk-taking, innovation and development of the airport site that are regarded as major benefits of privatisation

3.2.1 Profitability measures

The A4ANZ submission to the PC makes the claim that:[25]

> …Frontier Economics conservatively estimating the *excess* returns at the four monitored airports to be more than $16 billion since privatisation.

This claim is surprising in light of the finding in Frontier's market power report that:[26]

> …there are significant challenges associated with assessing the conduct and performance of Australian airports.

Unfortunately, the analysis by Frontier that underpins this claim has not been made available. Our review is necessarily restricted to matters that can be ascertained in light of references to the Frontier analysis made by either A4ANZ or Frontier itself. Little is revealed about the detail of Frontier's 'excess profits' analysis, beyond that it:

- evaluates the accumulated profits of Australian airports, including by reference to a regulator's likely approach to estimating the opportunity cost of capital;
- makes this assessment by reference to the entire operations of those airports, rather than isolating the aeronautical services for which any market power conclusion can be presumed to hold; and
- considers profit measures expressed in terms of both total return on capital, and EBITDA margins.

[23] AAA, *AAA submission to the productivity commission*, September 2018, pp 29-30.

[24] Productivity Commission, *Price regulation of airport services*, Inquiry Report, 2002 p xxxiii.

[25] Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 9.

[26] Frontier Economics, *The market power of Australian airports: a report prepared for A4ANZ*, September 2018, p 10.

There are also references to excess profits generated by means of the various airport lease transactions that took place around two decades ago, although it is unclear on what basis any such assessment might sensibly be made.

In our own aeronautical services market power report, we describe a number of potential challenges to which careful attention needs to be given in conducting any profitability analysis directed at the assessment of market power. These include that:[27]

- the estimation of an appropriate, contemporaneous WACC for comparison with the achieved rates of return earned by the four price monitored airports can be a significant task;
- returns can be expected to vary in accordance with the stage of the capital life cycle;
- ensuring economic (rather than accounting) profits are measured can be particularly challenging where measures of economic profits are derived from statutory accounting data; and
- determining appropriate asset valuations – the PC noted in its 2006 review that where valuation of aeronautical assets have changed, achieved rates of return were critically dependent on the values of aeronautical assets ascribed by airports.[28]

In light of the opaque nature of the Frontier analysis of airport profitability, it is difficult to undertake a fully informed review of its potential robustness. However, on the limited information available, it is possible to make some observations that would suggest a high degree of caution should be taken in relation to its findings. These are that:

- approximately half of the claimed 'excess profits' arise from the lease transactions themselves – we expand on this observation below;
- there are likely to be serious, intrinsic difficulties with comparisons of the rate of profitability of Australian airports with most examples of airports from international jurisdictions;
  - InterVISTAS discusses these in detail in its report prepared for the AAA and included as attachment 2 to the AAA's submission to the PC Inquiry, and points to difficulties such as that:
    - privately owned airports (such as Australian airports) must earn a commercial return on capital for their shareholders, unlike publicly owned airports – the ownership status of the airport is therefore an important consideration in undertaking international benchmarking;
    - accounting measures of capital may vary substantially from one jurisdiction to another;
    - a comparison of 'rack rates' fails to capture any discounting from these published rates by different various airports – the extent of discounting at airports around the world is unknown, making it difficult to assess whether the comparison of published rates is representative of market outcomes;[29]
    - the regulation of airports ranges internationally from price and revenue caps to lighter forms such as price monitoring, to no set regulation;[30]
    - similarly, relative tax rates and regimes in different jurisdictions must be considered in comparing rates of pre-tax profit;
    - by way of example, InterVISTAS notes that airports in the United States are not charged for use of airport land, pay no tax, and can access tax free bond financing.[31]

[27] HoustonKemp, *Assessing market power in aeronautical services: a report for the Australian Airports Association*, September 2018.

[28] Productivity Commission, Review of price regulation of airport services, December 2006, p 20.

[29] InterVISTAS, *Australian Airports: A performance benchmarking study*, Report prepared for Australian Airports Association, 2018, p i.

[30] InterVISTAS, *Australian Airports: A performance benchmarking study*, Report prepared for Australian Airports Association, 2018, p 19.

[31] InterVISTAS, *Australian Airports: A performance benchmarking study*, Report prepared for Australian Airports Association, 2018, pp 3-4.

- earnings before interest, tax, depreciation and amortisation (EBITDA) is wholly unsuitable as a measure of economic profit, since the level of EBITDA from one firm to the next is primarily driven by the capital intensity of each firm, and so offers no insight into the appropriateness of the level of prices or profits of that firm from a market power perspective;
- unless an analysis of airport profitability is separated into its component parts, so that profits on aeronautical services can be distinguished from the rate of profit on other, more competitive services, the analysis is unlikely to be of any utility for assessing the question at hand, ie, whether the delivery of aeronautical services reflects the outcomes that could be expected from a workably competitive market; and
- finally, the rates of profit or earnings of firms with no market power tend to fluctuate over time, on account of the ebbs and flow of economic cycles, asset replacement programs, and capacity expansions – for this reason, no profitability-based conclusion can be drawn from the simple observation of returns that, even if properly measured, may exceed a firm's cost of capital, even for significant periods of time.

A4ANZ repeatedly makes the claim that the profitability of Australia's major airports is 'extremely high' in comparison to international airports, based on the analysis of margins by Frontier.[32] On the other hand, Frontier's airport market power report notes that:[33]

> Comparisons of prices, costs, profits and service levels between airports are complicated by differences in size, configurations, demand etc. which means that 'like-for-like' comparisons are challenging and potentially misleading.

Further, according to A4ANZ, Frontier estimates that:[34]

> Considering the time value of money, the likely value of excess returns across all four airports is around $7 billion, in 2017 dollars. This figure is considerably higher if one includes the value of the profits accruing to government and captured in the sale prices, with their calculations indicating the value would in fact be over $16 billion in 2017 dollars.

We noted above that although we are not able to assess directly Frontier's calculations and methodology, we caution the inclusion of 'profits accruing to government and captured in the sale prices' as being relevant to any such analysis. It is difficult to envisage how an assessment as to the merits of a *capital* sum can be used to derive any conclusion as to excess *profits*, since the former concerns the value of an asset (in this case, a lease) at a point in time, whereas the latter which is a concept involving the rate of earnings over time.

Consistent with the need for caution in any such evaluation, we note that Frontier Economics Director, Professor Stephen Gray, has expressed similar sentiments in the context of those seeking to draw conclusions from the relationship between regulated firms' return on capital and the multiples of their regulatory asset base (RAB) derived in any sale transaction. For example, Professor Gray was one of a number of experts that prepared a joint expert report for the Australian Energy regulator (AER) earlier this year, which stated:[35]

> There are myriad reasons why RAB multiple above one might be observed, only one of which is that the allowed return on equity is generous.

Professor Gray similarly indicated in a 2017 conference presentation that a RAB multiple above one does not imply that a regulator's allowed return is 'overly generous'.[36]

[32] Airlines for Australia and New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 6.

[33] Frontier Economics, *The market power of Australian airports*, September 2018, p 11.

[34] Airlines for Australia and New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 15.

[35] Cambridge Economic Policy Associates, *Rate of return guideline review – facilitation of concurrent expert evidence, Australian Energy Regulator*, Expert Joint Report, April 2018, p 35.

[36] Frontier Economics, *Why do regulated assets sell for more than the RAB?*, IPART 25th Anniversary Conference, October 2017, p 3.

These statements are consistent with the view that the observation of a capital sum does not necessarily provide any useful information as to the appropriateness of a firm's rate of profits. They reinforce that a high degree of caution should be adopted in placing any weight on the profitability assessment by Frontier.

3.3 Conclusions about market power

The conclusion in Frontier's first paper on airport market power is modest and unexceptional, ie:[37]

> ….there are very few circumstances where an Australian airport may face a significant competitive constraints on its market power.

Notably, this conclusion is not stated in positive terms, ie, it simply finds there are few circumstances where a particular form of constraint applies. Frontier makes no finding of 'substantial market power', which is the usual legal standard for intervention by means of competition law enforcement or regulatory measures to control market power.

The mild nature of the conclusion drawn in the first Frontier report contrasts with the strength of the subsequent claims made by both Frontier and A4ANZ as to the extent to which airports are using their market power.

Frontier's report on profitability appears to quantify the 'excess' profits derived by airports. A finding of excess profits suggests that Frontier holds the view that the airports derived such excess profits through the exercise of market power. A4ANZ makes this direct observation in its description of Frontier's report, which it describes as having:[38]

> …assessed the exercise of market power by measuring the ability of the airports to earn returns above those that would be earned if the airports were constrained by competition or regulation.

In its subsequent report on the economic evaluation of an alternative approach to airport regulation, Frontier states:[39]

> There is now *convincing evidence* that Australian airports have market power and have been exploiting this in their dealings with airlines […] Furthermore, our analysis of airport profitability provides evidence that the monitored Tier 1 Australian airports have been exploiting this market power to earn excessive returns. [emphasis added]

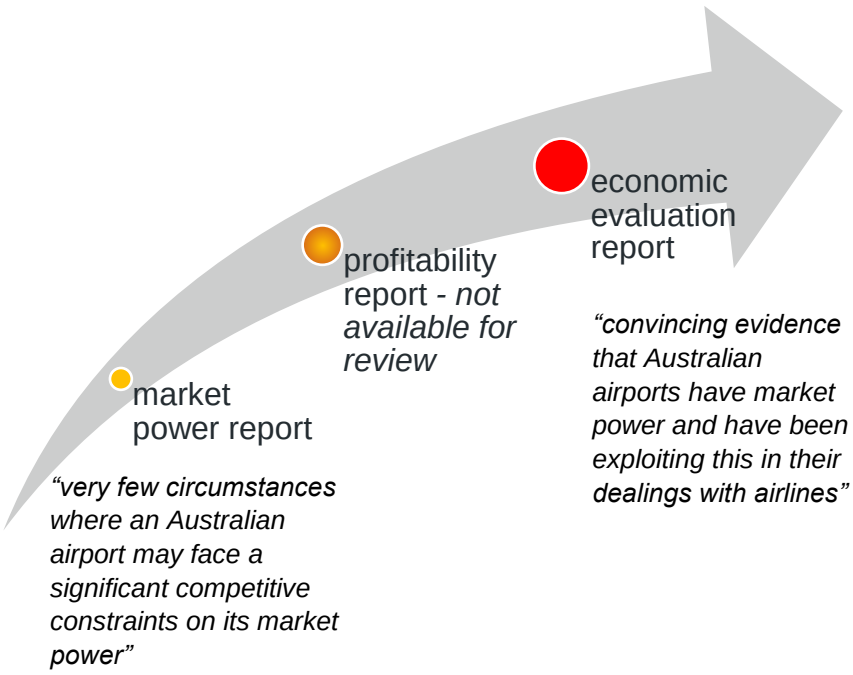
This sequence of statements indicates that the reported conclusions in relation to market power and the exercise of market power get successively stronger as the distance from the underlying analysis increases. We depict this phenomenon in figure 3.1, overleaf.

[37] Frontier Economics, *The market power of Australian airports*, September 2018, p iii.

[38] Airlines for Australia and New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 15.

[39] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation: report prepared for A4ANZ*, September 2018, p 3.

Figure 3.1: Increasing strength of Frontier's conclusions on airport market power



4. Suitability of final offer arbitration for airports

In this section we evaluate the suitability of FOA for airport-airline dispute resolution.

FOA is a mechanism under which both parties to an arbitration submit a 'final offer' and the arbitrator is bound to choose one or other of the final positions put forward by the parties. However, the arbitrator is not permitted to select an intermediate or any other outcome, even if he/she considers that a superior alternative is available. We discuss the theory of FOA in detail in appendix A1.1.

With regard to a negotiate-arbitrate framework in general, Frontier notes that:[40]

> Others [ie, other forms of regulation] (e.g. negotiate/arbitrate) are more appropriate for situations of bilateral negotiation between counterparties of similar standing.

This contrasts with Frontier's own assessment of airport-airline negotiations that 'airports [have] a bargaining edge over airlines'.[41]

4.1 Strengths and weaknesses of final offer arbitration

FOA has been applied in a number of different markets over the last 40 years. We set out case studies for key applications in appendix A1.2.

In our opinion, the appropriate inference from these case studies as to the suitability of FOA as a mechanism for resolving pricing disputes is that:

- the method is likely to be suitable where:
  - the dimensions of a dispute are limited, ideally to price alone;
  - the relevant product or service does not involve any significant degree of discretion as to the dimensions of quality by which it is provided;
  - the scale of the dispute is relatively low, say, as compared with the total revenue, costs (including opportunity costs) and/or sophistication of at least one of the respective parties;
  - there is likely to be a significant number of other, perhaps similar transactions that may be available for use as market price benchmarks by one or both parties; and
  - there is no strong relationship between the particular price that is to be determined and a cost recovery objective; and
- by contrast, the method is likely to be unsuitable where:
  - there are multiple or complex dimensions that are subject to dispute;
  - the scale of the matters in dispute is relatively high, as compared with the total revenue, costs (including opportunity costs) and/or sophistication of the respective parties;
  - there is a limited number of similar transactions that may be available for use as market price benchmarks by one or both parties; and
  - there is a strong intended relationship between the price that is to be determined and a cost recovery objective.

[40] Frontier Economics, *Improving economic regulation of urban water*, August 2014, p 50.

[41] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation: report prepared for A4ANZ*, September 2018, p 9.

In a report prepared for A4ANZ, Ms Arblaster echoes these sentiments, noting that:[42]

> FOA is considered less suitable when the dispute involves a 'package selection'. It can be challenging to collapse a set of diverse aspects, such as quality of services, enforceability of terms and conditions and pricing over a period of time, into a single point of comparison where the arbitrator has to choose one of two disparate packages. Where the offer contains not only a price, but also terms and conditions which are nuanced and possibly tailored to the unique needs of one party they are not easily standardised nor summarised in a single number…
>
> FOA can be an effective dispute resolution mechanism for price disputes and disputes that are not complex, such as disputes [not] involving multidimensional factors including quality of service aspects.

In other words, Ms Arblaster holds the opinion that FOA may be effective in some simple, single-dimensional disputes, but not in more complex disputes.

4.2 A4ANZ submission and applicability to Australian airports

In this section, we address the suitability of FOA to airport-airline disputes in Australia. In particular, we find that A4ANZ's proposed scheme is not appropriate for Australian airport-airline disputes because:

- airport charges are set to meet the efficient costs of providing aeronautical services;
- airport-airlines disputes tend to be complex and multi-dimensional;
- airports and airlines are both large and sophisticated parties; and
- the inherent existence of a sector specific arbitration process may have risks to the commercial negotiation process itself.

4.2.1 Prices set by reference to cost

Inherent to airports' provision of aeronautical services is the investment in and operation of long lived capital assets, with periodic requirements for major upgrades and/or capacity extensions. Long term investment and operating efficiency requires that the price for such services be determined by reference to long run costs.

This unexceptional objective is reflected in the Aeronautical Pricing Principles (the pricing principles), which state that prices for aeronautical services should:[43]

> i) be set so as to generate expected revenue for a service or services that is at least sufficient to meet the efficient costs of providing the service or services; and
>
> ii) include a return on investment in tangible (non-current) aeronautical assets, commensurate with the regulatory and commercial risks involved and in accordance with these Pricing Principles.

Further, in the event that an airport service was declared under the Part IIIA provisions of the CCA, a very similar set of objectives applies to the resolution of any disputes between airlines and airports as to the terms of access. The applicable principles[44] state that regulated access prices should:

> (i) be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient costs of providing access to the regulated service or services; and

[42] Arblaster, Margaret, *Report on the policy framework for economic regulation of airport services in Australia for Airlines for Australia and New Zealand*, September 2018, p 43.

[43] See Productivity Commission, *Economic regulation of airport services*, Inquiry report, December 2011, p 159.

[44] Section 44ZZCA(a), *Competition and Consumer Act* 2010

> (ii) include a return on investment commensurate with the regulatory and commercial risks involved;

Consistent with these principles, the International Civil Aviation Organization's (ICAO's) policies on airport charges place significant emphasis on airport charges being cost based, with no direct consideration of willingness-to-pay.[45]

These objectives stand in direct contrast to the principles underpinning the prices we describe the case studies in appendix A1.2, where users' willingness-to-pay has a significant influence on the determination of efficient price outcomes.

In circumstances where cost recovery is an important overarching objective, it is far from clear how an FOA mechanism would be capable of providing a more efficient and effective form of dispute resolution than more conventional forms of arbitration. This is because a fundamental requirement of any aeronautical service-related arbitral process is likely to be the need to form of a view on the nature and extent of the relevant costs, and the reasonableness of the process of translating those costs into prices (particularly over successive pricing periods).

These challenges are reinforced by the circumstances facing many of the airports, where increasing demand for air travel has or will necessitate major capacity expansions, such as investment in additional runways or terminal infrastructure. The highly uneven time profile of costs associated with such capital expansions inevitably means that the appropriate price in one period will be influenced by that which was (or will be) set in past or future periods. In these circumstances, it is easy to envisage outcomes from an FOA process that leave parties unclear as to how substantial new investments will be remunerated, thereby threatening the undertaking of such investments.

By contrast, under a conventional arbitral process, the arbitrator may be able to set a price that is closer to an appropriate value (having regard to the applicable pricing principles). Put another way, the increased flexibility of conventional arbitration is likely to mean that the ability of the arbitrator to 'split the difference' (or make any appropriate decision as between the positions of the parties) may have significant value in terms of long term economic efficiency. This ability is not available to an arbitrator in FOA.

Consistent with this observation, the PC noted in its 2006 draft report on price regulation of airport services that:[46]

> ….the final offer approach has been criticised on the grounds that if a dispute goes to arbitration, the arbitrator must choose between the two final offers and cannot countenance possibly superior alternatives.

Further, even if an FOA regime was to be implemented, there are no grounds for A4ANZ's observation that the ACCC would be best placed to administer such arrangements.[47] The ACCC has relatively limited experience in conducting commercial arbitrations, while there is a deep body of professional arbitrators that routinely serve to resolve similar disputes.

Further, appointing the ACCC as arbitrator may effectively lead to a return to the heavy-handed, regulatory-focused determination of airport charges – but on a potentially *less efficient* basis given the final offer structure proposed by A4ANZ. This would be in in significant contrast to the government's expressed preference for light-handed regulation. In further contrast, we note that arbitrations in Canada are not typically undertaken by a regulatory or other governmental agency, but the arbitrators are independent and often chosen by mutual agreement between the parties to the arbitration.

[45] ICAO, *ICAO's policies on charges for airports and air navigation services*, Ninth Edition, 2012.

[46] Productivity Commission, *Review of price regulation of airports services*, Draft report, 2006, p 116.

[47] Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 43.

4.2.2 Airport-airline disputes are complex and multi-dimensional

Arblaster notes that 'airports are complex businesses'.[48] Consistent with this, service agreements struck between airports and airlines are typically complex – they generally address not only the prices to be paid at a given point in time for several different services, but also a wide range of other factors such as:

- the development of prices over time, especially if related to project delivery;
- applicable service levels;
- agreed capital expenditure programs; and
- arrangements to consult about airport development and operations.

It is not clear how FOA would assist negotiation regarding, say, the construction of a new runway, where infrastructure requirements and investment decisions are highly complex and not well suited to selection between two final offers. A4ANZ notes such an example in their submission, where a regional airport had 'failed to demonstrate that demand exists for a runway of the length and width proposed by the airport, yet funding for the runway is being demanded from the airlines'. [49]

In this instance, the complexity arises due to differing views between the airport and airlines regarding future demand and capital requirements. If resolution of such a dispute was to be attempted using FOA, then the potential outcomes would be likely be that either the runway gets built, or it does not. This ignores the potential for an arbitrator to make an independent assessment of the information available and so make an informed decision – which may be some combination of the parties' offers, or an alternative solution altogether. It is difficult to understand, then, why FOA would be expected to provide any improvement over the current framework. More likely, it would impose additional costs through the risk of sub-optimal outcomes that may have long term and irreversible consequences.

In contrast to the case of airport-airline disputes, FOA appears to work well when the scope for dispute resolution is narrow, for example when there is a single quantitative dimension in dispute, such as price.[50] When a number of different issues need to be considered, each with potential implications for the other, the effectiveness of such a mechanism is likely to be compromised.

For example, in the case of all-in-one FOA, either party may include a number of terms that they believe the arbitrator may find 'reasonable', but a small amount of terms that may be 'unacceptable' in the course of general negotiation. In this case, the complexity of the issue may result in the arbitrator being required to select between two offers, each of which has some 'unacceptable' components. This shortcoming of FOA was also noted by Ms Arblaster.[51]

On the other hand, in the case of a component-by-component application of an FOA mechanism, the sequential decision-making process required must be undertaken by a process that cannot readily address the intrinsic trade-offs between more of one component and less of another. An arbitrator is likely to be forced to choose between options that prevent the adoption of intermediate positions regardless of whether the offers presented are likely to present efficient outcomes.

[48] Arblaster, Margaret, *Report on the policy framework for economic regulation of airport services in Australia for Airlines for Australia and New Zealand*, September 2018, p 13.

[49] Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 24.

[50] Arblaster, Margaret, *Report on the policy framework for economic regulation of airport services in Australia for Airlines for Australia and New Zealand*, September 2018, p 43.

[51] Arblaster, Margaret, *Report on the policy framework for economic regulation of airport services in Australia for Airlines for Australia and New Zealand*, September 2018, p 43.

Consistent with this, the ACCC has noted that:[52]

> …even if the pricing principles offered precise guidance, if there was information asymmetry between the parties to the arbitration the risk that divergent offers would be made, and an inefficient price set, would remain high.

There may be scope for inefficiency even in the case where only one issue is disputed. For example, in the case of Canadian media distribution, each party submits 'fair market value' factors to be used and weights to be applied in determination of a fair charge. However, it may be likely that some combination of *both* parties' offers or some other adjustment would be the most efficient outcome, but the arbitrator is restricted from choosing such an outcome.

4.2.3 Both parties are large and sophisticated

In contrast to the apparently successful examples of the application of FOA, Australian airports and their airline customers both represent large, sophisticated parties, for which the outcome of any dispute has significant commercial ramifications. As noted by Frontier, outcomes of disputes between airports and airlines may affect the development of aviation markets, competition and regional economies, so that there may be significant public interest in the outcomes of these negotiations beyond the private interests of the parties to the arbitration.[53]

The significance of each airport-airline customer relationship to the commercial circumstances of both parties implies that both airports and airlines have relatively more bargaining power in such negotiations than the case studies we identify below. The principal consequence of the economic significance of each such pricing agreement is that they are less suitable for dispute resolution processes that increase the risks of sub-optimal outcomes.

4.2.4 Risks to the negotiation process itself

The introduction of any formal dispute resolution process may have negative implications for the prospect of resolving disputes by commercial negotiation. We do not agree with Frontier that an industry specific arbitration regime will 'enhance negotiations'.[54]

The PC has previously observed that the applicable pricing principles suggest that, in the first instance, prices and additional terms of access should:[55]

> …be established through commercial negotiations undertaken in good faith, with open and transparent information exchange between the airports and their customers.

Although the invoking of some form of dispute resolution process may be necessary in some circumstances, the form of dispute resolution should be designed so as to give the best possible chance for commercial negotiations to succeed. For example, the PC concluded in its 2007 final report that:[56]

> …a readily accessible airport-specific arbitration system would fundamentally undermine incentives for the parties to negotiate outcomes. Put simply, it seems highly likely that such a system would come to be viewed by airlines in particular as the default option, effectively leading to a return to heavy-handed determination of charges and conditions for airport services, with all of its attendant costs.

[52] Australian Competition and Consumer Commission, *Response to the Productivity Commission position paper: review of the national access regime*, June 2001, p 15.

[53] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 6-8.

[54] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 22.

[55] See Productivity Commission, *Economic regulation of airport services*, Inquiry report, December 2011, p 159.

[56] Productivity Commission, *Review of price regulation of airports services*, December 2006, p 95.

Experimental research supports this, indicating that dispute rates under FOA may actually be higher than in a comparable conventional arbitration mechanism.[57] This risk does not appear to be contemplated by A4ANZ or Frontier.

In our opinion, the conduct of a negotiation process in which all relevant matters of contention are identified, and the trade-offs between individual elements of a typical service agreement are identified and assessed, is more likely to be assisted by a dispute resolution process that is capable of taking all relevant considerations into account. In particular, A4ANZ's suggestion of FOA does not allow for this.

4.2.5 Summary

Airport-airline disputes are inherently long and complex and, in light of the above evidence, it is far from clear that FOA would be an effective form of arbitration for resolving such disputes. This appears to be a similar conclusion to that of Margaret Arblaster, who does not find that FOA is appropriate for airport-airline disputes.

[57] Ashenfelter, Orley, Currie, Janet, Farber, Henry and Spiegel, Matthew, 'An experimental comparison of dispute rates in alternative arbitration systems', *Econometrica*, vol. 60, no. 6, November 1992, p 1430.

5. Frontier Economics' evaluation

This section provides a critique of the Frontier report titled '*Economic evaluation of an alternative approach to airport regulation*', included as Appendix B to A4ANZ's submission to the current Productivity Commission inquiry into the economic regulation at airports.

We set out that:

- many of the critical assumptions are inappropriate, including:
  - the effectiveness of the proposed regulatory remedy;
  - the extent of cost pass-through;
  - the description of transfers from airports to airlines/customers as 'benefits'; and
  - ignoring the potential for additional cost as a result of reform;
- the additional benefits claims are unsubstantiated.

In addition to this critique, we observed in section 2 above that the foundation for Frontier's assessment is that the airports are exercising market power. However, we show in section 3 that this premise also has no support, with the result that there is no underlying case for either more regulation or a cost effectiveness assessment thereon.

5.1 Frontier's critical assumptions

In this section, we describe the critical assumptions of Frontier's evaluation of A4ANZ's proposed regulatory remedy. In particular, we identify difficulties with assumptions involving:

- the effectiveness of the proposed regulatory remedy;
- the extent of cost pass-through;
- the description of transfers from airports to airlines/customers as 'benefits'; and
- the overlooking of the potential for additional cost as a result of reform.

5.1.1 Effectiveness of the proposed regulatory remedy

Frontier has taken as an assumption that the proposed regulatory remedy of altered price monitoring, information disclosure and FOA will fully internalise its contended use of market power. This assumes that the full amount of airport excess profits (as estimated by Frontier) will be translated into a reduction in airport charges. We also note that Frontier has applied the airport charge reduction estimated for Brisbane airport to Adelaide, Gold Coast, Cairns, Canberra and Hobart airports.[58] Frontier provides no justification for why this should be the case.

We explained in section 4 above that we do not agree that FOA would be an effective form of regulation, and so – noting that we also do not agree with Frontier's analysis in relation to excess profits – would be unlikely to correct any or all of the claimed use of market power.

Moreover, in addition to assuming full resolution of excess profits, Frontier assumes that there will be no regulatory error involved in that process. However, if an FOA regime was adopted, there is significant potential for airport charges to be set too low to allow airports to recover sufficient costs to justify required investment. This would place further constraints on both airports and airlines.

[58] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 55.

5.1.2 Cost pass-through

Frontier assumes that a reduction in airport charges is fully passed through to air fares.[59] Frontier does not offer any explanation or rationale for this assumption, and makes no assessment of the sensitivity of its findings to this assumption. Notwithstanding, Frontier does note the importance of pass-through in its market power report:[60]

> To analyse the strength of the response of passengers, it is necessary to consider … the degree to which an increase in airport charges (say by 5-10%) will be passed on to these different passengers through airfares on these routes.

This observation is made despite Frontier's comment earlier in the same report, that:[61]

> …while the response of passengers to changes in airfares can be measured the response of passengers to changes in airport charges cannot.

There is no economic theory that supports an *a priori* assumption about the extent of cost pass-through. Rather, even in a perfectly competitive market, the extent of an industry-wide cost pass-through depends on the relative elasticities of supply and demand. RBB Economics, in a paper provided to the United Kingdom's Office of Fair Trading, stated that:[62]

> Significantly, however, a wide range of pass-through rates is possible even for the extreme cases of monopoly and perfect competition.

Further, we note that it is not possible to draw inference as to the intensity of competition, or a lack of competition, from the extent of cost pass-through:[63]

> Pass-through is a useful tool to understand competition in market, assuming the underlying competitive model is known. In practice, however, the mode of competition is *unknown*, so the question becomes whether pass-through can help "identify" it. The basic conclusion from the present analysis is that it cannot. […] The only robust inference appears to be the following: A pass-through rate above 100%, under wide assumptions, is inconsistent with perfect competition, and so is strong evidence for *some* degree of market power (but not necessarily of collusion). Saying more than this requires *much* more detailed empirical analysis of a market
>
> (citations omitted, emphasis in original text)

The report by InterVISTAS (attached as an appendix to the Perth Airport Pty Ltd submission to the PC inquiry) echoes our observations, stating that:[64]

> We should not automatically expect 100% pass through – it is an empirical issue.

InterVISTAS goes on to share estimated empirical pass-through rates at Perth Airport for various airlines and routes. Some of these results are repeated here by way of example, although this list is not exhaustive:[65]

- for interstate services, Qantas, Virgin and Jetstar show pass-throughs of between five and 16 per cent of the increase in airport terminal charges per passenger, while Tiger had a pass-through rate of 80 per cent;

[59] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, footnote 5, p 6.

[60] Frontier Economics, *The market power of Australian airports*, September 2018, p 21.

[61] Frontier Economics, *The market power of Australian airports*, September 2018, p 13.

[62] RBB Economics, *Cost pass-through: theory, measurement, and potential policy implications: A report prepared for the Office of Fair Trading*, February 2014, pp 4-5.

[63] Ritz, R, *The simple economics of asymmetric cost pass-through*, MIT Center for Energy and Environmental Policy Research, June 2015, p 11.

[64] InterVISTAS, *The development of airfares and airport charges at Perth airport*, August 2018, p i.

[65] InterVISTAS, *The development of airfares and airport charges at Perth airport*, August 2018, pp ii-iii.

  - if airfield and security charges are included, the total airport charge pass-through rate was between eight and 11 per cent for Qantas, Virgin and Jetstar;
- For regional services, Qantas has an average terminal charge pass-through of six per cent, ten per cent for Virgin, and 14 per cent for Alliance, although the latter estimate was not statistically significant; and
- for international services, there was no consistent finding.

These results suggest that the extent of pass-through of airport charges into air fares (at least, at Perth Airport) is significantly lower than 100 per cent.

Consistent with this, as noted in AAA's submission, the PC's 2012 inquiry into airport regulation found that increases in airport charges typically have 'only a minor effect on airfares,'.[66] The PC also found that impacts on customers are blunted by airlines' price discrimination, which shield the most price sensitive passengers from increased fares,[67] and primarily raise distributional concerns between airlines and airports as a transfer of profits from one to the other.[68] This further underlines the difficulty in estimating increases in passenger demand in response to any change in airport charges.

5.1.3 Any cost of reform

In calculating the cost saving of $23 million in NPV terms, Frontier does not include any allowance for additional costs associated with arbitration – indeed, such costs are referred to in the calculation as 'unvalued assumed to be low'.[69] In reality, both airports and airlines are likely to face additional costs in arbitration and preparation.

As noted above, Frontier also assumes no regulatory error – which could have significant spillover costs in investment.

5.1.4 Transfers to airlines / consumers

Frontier calculates that consumer surplus will increase by $648 million per annum as a result of the regulatory framework suggested by A4ANZ.[70] Of this $648 million per annum: [71]

- $639 million is described as 'overcharge', ie, represents transfers of excess profits from airport shareholders via airlines to consumers, being airline passengers; and
- $8 million represents incremental benefits in increased air passenger transport services, ie, the economic value added through additional flights taken, as measured by:
  - the value of those flights in to passengers; net of
  - the economic cost of providing those flights – this is known as the avoided dead weight loss.

Frontier acknowledges that:[72]

> this estimated consumer surplus represents both allocative inefficiencies (or dead weight loss) and the transfer of producer surplus to consumers (i.e. benefits that were previously captured by airports).

Indeed, approximately 99 per cent of the claimed increase in consumer surplus represents a pure transfer, leaving only one per cent as avoided dead weight loss. Transfers do not increase total welfare, and so

[66] Productivity Commission, *Economic Regulation of Airport Services*, Public Inquiry, 2012, p xxvi.
[67] Productivity Commission, *Economic Regulation of Airport Services*, Public Inquiry, 2012, p xxviii.
[68] Productivity Commission, *Economic Regulation of Airport Services*, Public Inquiry, 2012, p xxviii.
[69] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 20.
[70] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 31.
[71] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 31.
[72] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 7.

A4ANZ's inclusion of the total consumer surplus increase as a 'benefit to the Australian Economy' is misleading.[73]

Rather, even if all the other assumptions that underpin the Frontier analysis were reasonable (which they are not), the benefit to the Australian economy expressed in the usual welfare terms is limited to around one per cent of the amount claimed by A4ANZ. Moreover, as discussed above, benefits to the economy would be likely to be even less than this amount given the strong likelihood of much less than a full pass through to passengers of any reduction in airport charges.

5.2 'Additional benefits'

Frontier suggests a number of 'additional benefits' to the Australian economy, including:[74]

- $650 million per annum in increased consumer surplus (as described above), amounting to $5.9 billion in NPV terms across 15 years (of which just $72 million is a true benefit to the economy);
- $90 million per annum in 'travel time savings';
- $10.9 billion in NPV terms of additional GDP expansion based on increased trade and foreign direct investment (FDI), representing 7,000 additional jobs; and
- unquantified 'wider economic benefits' for domestic routes, consisting of agglomeration effects and benefits from more competitive markets.

Of these, the GDP expansion component appears to be the least well supported.

5.2.1 Additional GDP expansion

It appears that the two main drivers for the $10.9 billion expansion in GDP are:

- increased trade and FDI, due to an increase in face-to-face business meetings; and
- increased tourist spending (of local and international tourists) as a result of increased connectivity.

Increased trade and FDI

Frontier refers to a number of surveys suggesting that face-to-face meetings have a significant impact on 'closing' international business deals. Although admitting that 'it is difficult to quantify the relationship' between face-to-face meetings on trade and FDI, Frontier goes on to assume parameters in order to calculate their estimated increase in GDP.[75]

A number of reference points for Frontier's selection of elasticity of business travel to FDI / trade are questionable at best, for example:

1. 'simple regression of flights and trade for non-OECD countries suggests that maximum impact is 0.7% for every additional 1% of flights'.[76] It is unclear how 'maximum' impact for non-OECD countries might apply to *actual* impact in Australia. Whether business travel causes trade or trade causes business travel is also unclear.
2. '38% of customers lost without face-to-face meetings'.[77]The source referred to by Frontier states that 'business travellers estimate that 38% of their customers would switch to a competitor', ie, it is based on

[73] Airlines for Australia & New Zealand, *Economic regulation of airports, submission to the Productivity Commission*, September 2018, p 5. Australian competition law generally adopts a modified total welfare standard, which requires that both benefits to producers and shareholders, as well as consumers be taken into account, although more emphasis may be put on the latter.

[74] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, pp 28-29.

[75] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 57.

[76] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 62.

[77] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 62.

survey estimates rather than actual results, with the reliability of such assessments being very unclear.[78] Further, the customers might switch to another Australian business and therefore this would represent not additional GDP but another transfer.

3. The range 0.54-0.61 based on WTTC research for the United Kingdom appears to mistake the correlation coefficient with elasticity.[79] The correlation coefficient measures the statistical 'strength' of the relationship between two variables, while the elasticity is the responsiveness of one variable to a change in the other. In particular, there need be no relationship (except for sign) between the correlation coefficient and elasticity.

This suggests that Frontier's chosen value of 0.3 may be unreliable, which calls into question the accuracy of the calculated $10.9 billion GDP increase.

Increased tourist spending

Frontier estimates increased inbound and outbound tourist spending by multiplying 'per passenger' values by their calculation of the number of additional passengers. Frontier notes that its calculation is likely to *underestimate* the outbound tourism expenditure – and therefore *overestimate* the net benefit to the Australian economy.

5.2.2 Wider economic benefits

Frontier describes wider economic benefits (WEBs) as 'welfare improvements resulting from transport improvements that are not easily captured in a traditional economic cost-benefit analysis'.[80] Noting also that Frontier has not undertaken a cost-benefit analysis, we agree that 'there is limited data to facilitate their estimation' in relation to Australian airports.[81]

[78] World Travel & Tourism Council, *Business travel: a catalyst for economic performance*, 2011, p 2.

[79] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 61.

[80] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 37.

[81] Frontier Economics, *Economic evaluation of an alternative approach to airport regulation*, September 2018, p 38.

6. Conclusion

We have reviewed the economic analysis and reasoning underpinning the key elements of Frontier and Arblaster reports that underpin the economic evaluation of A4ANZ's proposed changes to the existing regulatory regime.

Our analysis shows that, in relation to market power of the major airports:

- Frontier's market power assessment is limited by its 'structural only' approach;
- the benchmarking of profit margins of the major airports with international comparators is apt to mislead;
- noting that we are not in a position to review Frontier's report on excess profitability of the major airports, the economic rationale for considering value of profits 'accruing to government and captured in the sale prices' is nevertheless very unclear; and
- Frontier and A4ANZ's claims about major airports exercising of market power get successively stronger as each report is more distant from the underlying analysis that is being reported, despite being expressed in relatively measured times on Frontier's market power report.

In relation to the suitability of A4ANZ's proposed regulatory regime, that FOA is unlikely to be appropriate for airport-airline disputes, since:

- airport charges are set to meet the efficient costs of providing aeronautical services;
- airport-airlines disputes tend to be complex and multi-dimensional;
- airports and airlines are both large and sophisticated parties; and
- the inherent existence of a sector specific arbitration process may have risks to the commercial negotiation process itself.

Further, we note that A4ANZ's own economic advisor, Margaret Arblaster, suggests that FOA is unsuitable when disputes are complex, as is the case between airlines and airports.

In relation to Frontier's claimed benefits and saved costs from the regulatory regime:

- Frontier makes unreasonable assumptions that:
  - the proposed regime will fully account for all the calculated excess profits without any possibility of regulatory error;
  - reductions in total airport profits will be derived entirely from reduction in airport charges; and
  - these airport charges will be completely passed through (ie, 100 per cent pass-through) to consumers in the form of cheaper air fares;
- Frontier misrepresents *transfers* of profits from airport shareholders to consumers as a benefit to the Australian economy when, in truth, Frontier's own assessment suggests that the economic benefit is approximately one per cent of the total increase in consumer surplus; and
- the calculations by Frontier of 'additional benefits' of regulation appear to be based on unsuitable estimates and unreasonable assumptions.

A1. Final offer arbitration – definition and case studies

In this appendix, we describe the essential features of FOA, review the findings of economic literature and present a number of case studies where FOA has been applied with varying degrees of success.

A1.1 Origins, process and theory

FOA is a mechanism under which both parties to an arbitration submit a 'final offer' and the arbitrator is bound to choose one or other of the final positions put forward by the parties, but is not permitted to select an intermediate or any other outcome, even if a superior alternative is available.

FOA is sometimes known as 'baseball' arbitration, through its use since 1974 in the resolution of salary disputes in major league baseball in the United States. FOA has also been applied in other wage disputes in the United States and Canada.

FOA is not a precisely defined concept and there are some variants in its application. For example, if there is more than one issue in dispute, an arbitrator may be constrained either:

- to choose one or between two *whole* offers presented (all-in-one); or
- may be able to select from the two offers on a *component-by-component* basis.

Each variant has relative advantages and disadvantages. For example, the former may be simpler but has less flexibility and may introduce incentives for parties to include one or more extreme components alongside an otherwise 'reasonable' offer. Alternatively, the latter, component-by-component basis allows for some flexibility but may add significant additional complexity to the process, especially if the components are not independent.

The arbitration process itself may also take a number of forms, including choices as to whether:

- the arbitrator may engage in a hearing with the parties; or
- whether the arbitrator must make a decision solely by reference to the (written) offers presented.

A commonly cited reason for the adoption of FOA is the proposition that, in a traditional arbitration, arbitrators will tend to 'split the difference' between the offers presented, in which case the parties may be incentivised to 'game' the system by taking positions that are more extreme than would otherwise be the case, rather than seeking to identify a reasonable or 'middle ground' outcome.

Proponents of FOA suggest it has two further benefits, ie:

- since the arbitrator must choose between the options presented and is not able to select an intermediate position, the risk to each party is greater and so, in principle, the parties are more likely to settle during the negotiation phase, ie, the threat of arbitration encourages parties to bargain in earnest;[82] and
- if arbitration does occur, the parties may be incentivised to propose a more reasonable offer (although 'reasonable' depends on the arbitrator's beliefs and motivations), with some suggesting that the parties' offers are likely to converge to what they believe the arbitrator estimates as the appropriate award.[83]

[82] See, for example, Stevens, Carl, 'Is compulsory arbitration compatible with bargaining?', *Industrial Relations*: *A Journal of Economy and Society*, vol. 5, no. 2, 1966, p 46. This article is commonly cited as the work that introduced FOA.

[83] Stevens, Carl, 'Is compulsory arbitration compatible with bargaining?', *Industrial Relations*: *A Journal of Economy and Society*, vol. 5, no. 2, 1966, p 46.

These benefits are not solely a feature of FOA, but rather of any arbitration process that introduces uncertainty, although such benefits may be larger under FOA than other arbitration mechanisms.

However, the existence of greater uncertainty may also cause final offers to diverge. Research has shown that when there is increased uncertainty by the parties about the arbitrator's independent assessment, the final offers diverge from one another.[84] Different assumptions about behaviour and preferences of the arbitrator also imply different results in relation to the convergence of offers.[85] Experimental research has indicated that dispute rates under FOA may actually be higher than in a comparable conventional arbitration mechanism.[86]

Further, the extent to which arbitrators operating under conventional processes do tend to 'split the difference' is unclear. Although, on its face, this may appear to be the case, research has suggested that it may instead be that parties base their offers on what they believe the arbitrator is likely to estimate as appropriate, and the arbitrator subsequently makes that award.[87]

Some authors have also warned that FOA may result in 'a one-sided arbitration award that can be expected to be less equitable and less responsive to the needs of the parties than could be fashioned by arbitrator'.[88] It is not difficult to imagine that in a dispute involving multiple points of contention, one or both parties may include clauses in their offers that would be considered unacceptable in negotiations, and thus the arbitrator may be forced to choose not only between two inefficient offers, but also between two offers that each have unacceptable components.

Significantly, FOA has largely been used in determining labour disputes, with the Productivity Commission noting in its review of the national access regime that FOA 'has not been particularly successful in an access context.'[89]

A1.2 Case studies

In this section we describe a number of frequently cited examples of the use of FOA over the past 40 years, and note some of the important features of the markets in which it has been applied.

A1.2.1 Major league baseball

FOA is used in Major League Baseball (MLB) in the United States (US) solely for the purpose of resolving salary disputes between players and teams. It was introduced in the mid-1970s as part of a wider change in rules regarding players' agency.

Decisions are typically made within 24 hours of the arbitration hearing, a process that is assisted by the fact that the only issue available for determination by FOA is the salary of the player in question.[90] An important feature of the salaries (ie, prices) paid in an MLB context is that the relevant price is not designed or intended to cover a particular measure of cost, say as to the recovery of significant capital investments. Rather, salaries are set by reference to both the willingness-to-pay of teams and, presumably, alternative employment options open to players.

[84] See Farber, Henry, 'An analysis of final-offer arbitration', *Journal of Conflict Resolution*, vol. 24, no. 4, 1980, pp 683-705.

[85] Brams, Steven and Merrill, Samuel, 'Equilibrium strategies for final-offer arbitration: there is no median convergence', *Management Science*, vol. 29, no. 8, pp 927-941.

[86] Ashenfelter, Orley, Currie, Janet, Farber, Henry and Spiegel, Matthew, 'An experimental comparison of dispute rates in alternative arbitration systems', *Econometrica*, vol. 60, no. 6, November 1992, p 1430.

[87] Farber, Henry, 'Splitting-the-difference in interest arbitration', *Industrial and Labor Relations Review*, vol. 35, no. 1, 1981, pp 70-77.

[88] Feigenbaum, Charles, 'Final offer arbitration: better theory than practice', *Industrial Relations: A Journal of Economy and Society*, vol 14., no. 3, 1975, pp 311-317.

[89] Productivity Commission, *Review of the national access regime*, Inquiry report, September 2001, pp 217.

[90] Abrams, Roger, 'Inside baseball's salary attribution process'. *The University of Chicago Law School Roundtable*, vol. 6, no. 1, 1999, p 55.

A1.2.2 Labour markets in the United States

A number of labour markets in the US use or have used FOA in settling public employment disputes, including for police, fire, state employees and teacher's salaries in a number of states.[91] Again, the prices in such labour markets are likely to be set by reference to the willingness-to-pay of the employers, and the alternative employment options available to employees, but not with direct reference to any form of cost to provide the service. By virtue of their labour market focus, the range of considerations in dispute is likely to be relatively limited.

Academic review of the outcomes or performance of FOA in this context appear to be mixed. Lipsky and Katz note that:[92]

> The salaries of police officers and firefighters in municipalities that have used interest arbitration are not significantly different from comparable salaries in municipalities that have not used interest arbitration … [but] arbitration usage rates are significantly lower in states with final offer arbitration than they are in states with conventional arbitration.

A1.2.3 Canadian railways

FOA has been available for the resolution of rate disputes between railway shippers and carriers in Canada since 1988 under the *National Transportation Act 1987,* now the *Canada Transportation Act 1996* (CTA).[93] Previously, rates were primarily set by voluntary contracting or inflation indexed existing tariffs. Maximum rate regulation was available, although only one application was filed and it was not decided by the regulator. Under the new arbitration system, any shipper that is not satisfied with the rates or conditions set by a carrier may submit a dispute to the Canada Transportation Agency (the Agency) for FOA.[94]

Shippers and carriers must submit their final offers, including rates and other conditions to the Agency, who passes them on to an independent arbitrator. The arbitrator is chosen by the parties from a roster established by the Agency, or chosen by the Agency in the case of disagreement between parties. The CTA sets out the time frames during which the arbitrator must hold a hearing (if required by the CTA) and make a decision. These time frames are either 30 or 60 day proceedings, depending on the specifics of the dispute.[95] The arbitrator's decisions are confidential and so not publicly released and the arbitrator does not provide the parties with reasons for their decision,[96] which makes an external assessment of the *actual* effectiveness of the system somewhat difficult.

InterVISTAS Consulting notes that from 1988 to 2010 there were approximately 50 FOA decisions.[97] Although this mechanism has been regularly utilised, given this apparently low number of disputed rates as compared with the number of rates presumedly set between carriers and shippers over the period, it appears that either:

- FOA has been effective at encouraging negotiations between parties; or
- parties would have negotiated effectively even in the absence of FOA (with or without another prescribed formal arbitration mechanism).

[91] Lipsky, David and Katz, Harry, 'Alternative approaches to interest arbitration: lessons from New York city', *Public Personnel Management*, 2006, vol. 35, no. 4, p 278.

[92] Lipsky, David and Katz, Harry, 'Alternative approaches to interest arbitration: lessons from New York city', *Public Personnel Management*, 2006, vol. 35, no. 4, p 267.

[93] Shippers are the parties wanting goods transported and carriers are the rail operators that are contracted to move the goods.

[94] See *Canada Transportation Act 1996*, ss 161–169.

[95] Disputes for lower traffic levels may be heard under a shorter arbitration time frame, with no hearing and only written submissions of comments, supporting documents and expert statements.

[96] Parties may request written reasons from the arbitrator within 30 days of the arbitrator's decision (or seven days under the shorter summary process). See Canadian Transportation Agency, *Final offer arbitration – a resource tool*, 2012, p 2.

[97] InterVISTAS, *Issues regarding regulation of New Zealand's gateway airports*, December 2014, p 33.

In general, railway operators typically use a high degree of price discrimination when setting charges for shippers, with such discrimination taking place by reference to the type of freight task. For example, transportation of intermodal containers from ports to major cities is likely to face more intense competition from competing rail carriers or shippers using US ports than coal moving on the line of a single railway (noting that even in this case there may be the opportunity to use a connecting carrier at an interchange). Accordingly, shippers buying the former can expect to be charged more (per unit of distance or weight) than the latter. In other words, prices often vary according to the nature of the end user and the associated competitive alternatives. Individual prices paid by shippers to railway haulage operators are typically not set by reference to the cost of providing that particular service.

We note that section 196.2 (1) of the CTA allows for shippers to submit a joint matter for FOA.[98]

A1.2.4 Manila Water concessions

In some contrast to the case studies we identify above, the price setting arrangements applying under the two, long term concession agreements for the supply of water and sewerage services in the city of Manila contain a form of FOA for the settling of disputed determinations in relation to the price (or rate) at which water services are supplied to final customers by the two concessionaires.

The Manila concession agreements prescribe a cost-based form of rate setting that draws on inputs such as:

- net cash flows (whether of an operating or capital nature, and after allowance for revenue received) expended or received hitherto by each concessionaire;
- cash flows (again, whether of an operating or capital nature) expected to be expended through to the end of the concession terms; and
- the appropriate discount rate (or cost of capital) to be applied to both past and future cash flows;

in order to determine:

- the level of rates that will deliver future revenues so that the net present value of forward looking cash flows is equal and opposite to the present value of historic net cash flows.

Any dispute arising in the 'rate rebasing' process that is scheduled to take place each five years is to be settled according to an FOA process, prescribed as follows:[99]

> Dispute Notices referred by the Concessionaire relating to Rate Rebasing Adjustments (each a "Rebasing Dispute") shall include a detailed description of the Concessionaire's alternative proposal for a Rate Rebasing Adjustment for the next Rate Rebasing Period, together with information as to how such Adjustment was calculated. The Regulatory Office shall have 15 days after receipt of notice of a Rebasing Dispute in which to submit to the Appeals Panel the Rate Rebasing Adjustment for the next Rate Rebasing Period determined by the Regulatory Office in accordance with section 9.4.2 above, together with information as to how such Adjustment was calculated. After making such investigation and conduct such hearings into the matter as the Appeals Panel deems appropriate, the Appeals Panel shall, by not later than September 30 of the year in which a Rebasing Dispute is referred to it, accept *either* the Rate Rebasing Adjustment as determined by the Regulatory Office or the alternative Rate Rebasing Adjustment proposed by the Concessionaire. [emphasis as per original]

The adoption of an FOA mechanism in the 1998 Manila water concession agreements was a decision taken with the conscious objective of securing a simple, expeditious dispute resolution mechanism.

However, the actual experience of these arrangements has fallen far short of this objective. In at least these instances of which we are aware of rate setting disputes arising in relation to the Manila water concessions,

[98] See *Canada Transportation Act 1996*, s 169.2 (1).

[99] Concession Agreement (Service Area East) between Metropolitan Waterworks and Sewerage System and Manila Water Company, Inc, dated as of 21 February 1997, Article 12.4 (iii)

on no occasion has the arbitration outcome been delivered and implemented on a final offer basis. Rather, the focus of each dispute has largely been on a combination of:

- the legal and/or economic interpretation of particular 'input' terms of the agreement that provides for all pricing disputes to be settled by FOA; and
- the adoption of compromise positions in relation to particular 'output' parameters that fall outside of those specified by the FOA mechanism – such as to revised service targets, the deferment of otherwise allowable near term price increases, and so on.

In our opinion, the failure in implementation of the prescribed FOA mechanism in the Manila water concessions underlines the poor suitability of such a mechanism for the resolution of complex, multi-dimensional disputes between large, sophisticated parties.

It also illustrates that, despite the relevant agreements prescribing that a form of FOA shall be adopted, whenever circumstances arise for which its practicability is in doubt, the mutual interests of the arbitrator and each of the relevant parties is likely to ensure that a different, more tractable process is in fact followed.

A1.2.5 Canadian media distribution

FOA is available for dispute resolution for disputes regarding media distribution that are exclusively monetary in nature.[100] Arbitration is only made available by the Canadian Radio-television and Telecommunications Commission (the CRTC) if it is satisfied that parties have made reasonable efforts to resolve their dispute. The outcomes of the arbitration process are public, but the exact details of the determined rates are not disclosed.

The CRTC takes into consideration the proposed financial terms with reference to a number of 'fair market value' factors. This selection of a number of different, possibly interdependent factors means that despite the relatively narrow monetary focus, decisions may be prone to inefficiencies since arbitrators are not able to select any intermediate or other position than those proposed by the parties.

A1.2.6 Other infrastructure services

Beyond the case of the Canadian railways and Manila water concessions described above, we are not aware of any contractual or regulatory arrangement applying to an infrastructure-related service that adopts a dispute resolution mechanism in the form of FOA. In particular, we are not aware of any jurisdiction adopting this approach for the resolution of access disputes in the last twenty years, a period that can be characterised as one of significant evolution and innovation in regulatory policy globally. In our opinion, this limited set of varying outcomes is not capable of supporting A4ANZ's claim that FOA represents a 'best-practice'[101] dispute resolution mechanism.

[100] Canadian Radio-television and Telecommunications Commission, *Broadcasting and telecom information bulletin CRTC 2013-637*, November 2013, para 17.

[101] Airlines for Australia & New Zealand, *The performance & impact of Australia's airports since privatisation*, A preliminary report, May 2018, p 18

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