Report on Issues Regarding Auckland Airport's Runway Land Charge

Pat Duignan 28 November 2017

Introduction

The Commerce Commission has asked for submissions regarding the analysis of the "third price setting events" for Auckland International Airport (AIAL) and Christchurch International Airport (CIAL), as required by Part 4 of the Commerce Act (2006).

In its third price setting event AIAL has advised, among other matters, that it intends to introduce a new additional charge which it describes as the "runway land charge". This is to be introduced as a uniform $1.19 plus GST charge applying to all passengers carried, once conditions are met regarding the decision to construct the second runway and expenditure on preparations for the project.

I have been asked by BARNZ to outline some issues that would inform the Commission's assessment of this AIAL pricing component. This report complements the report to BARNZ by John Small dated 19 April 2017 by describing how competition among airlines tends to achieve the economic efficiency objective AIAL state the runway land charge is intended to achieve, whereas AIAL's proposal could be detrimental to that objective[1].

As background, it is relevant to note the Commission's view, expressed in a recent draft decision regarding capital expenditure by regulated entities, that "*We consider that there is a trade-off between limb (b) of 52A(1) of the Act, ie, having incentives to innovate and invest, and limb (d), ie, the ability to extract excessive profits*"[2].

In terms of this trade-off, it is highly relevant that the Commission has concluded that the Powerco Customised Price Path application, currently under consideration, proposes an increase in investment which would improve quality above the standards currently applicable[3]. That is evidence that a price-quality path regulated firm finds the Commission's WACC methodology (including the uplift[4]) is sufficient to incentivise significantly more investment than the bare minimum required to maintain quality.

While the Powerco application provides the Commission with comfort that its WACC methodology provides a sufficient return to motivate investment, there remains a separate issue regarding the timing of investment. A component of this issue is the construction time for a large investment such as the second runway construction.

Incentives for timing of monopoly investment

On this timing issue, a number of analytical papers have concluded that in the case of a large lumpy capacity increasing investment "*An unregulated monopolist's private incentives to invest are typically*

[1] This report has been prepared by Pat Duignan of Munro Duignan Ltd (MDL) with care and diligence. The statements and opinions in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading. However, it does not purport to be a complete analysis of the runway land charge. No responsibility is accepted for any consequences of reliance on it.

[2] Footnote 9, Transpower Capex Input Methodology Review, Draft Decisions, 15 November 2017

[3] Para 529, Draft Decision on Powerco CPP, 16 November 2017.

[4] In the case of airports the Commission has concluded that the benefit from investment in air service capacity that is received through unregulated activities results in an uplift not being warranted.

weaker than social [ie welfare maximising] *ones, as the firm cannot appropriate all benefits, but does incur all costs. As a result the monopolist tends to delay investment even longer*"[5] [than the delay indicated by a real options analysis]. (Zwartz, G.;Broer, D.P. (2012) "*Optimal Regulation of Lumpy Investments*" TILEC Discussion Paper)

A range of authors have considered how a monopolist could be motivated to reduce the delay in that monopolist's undertaking lumpy capacity increasing investment compared to the socially optimal timing[6]. The Commission's decision that land held for future use should not be included in the Airports' information disclosure of their regulated asset base, but should be reported separately, is consistent with the literature's conclusions. Such land is to be added to the regulated asset base only when it is actually being used to provide services for air travellers. Thus the Commission's approach implements the literature's conclusion is that it is beneficial if the monopolist's investment is recognised only when the additional capacity becomes available to consumers.

AIAL is proposing, however, that the current period holding cost of the land held for future use be recognised prior to the related capacity becoming available to consumers.

Thus, two considerations, of central importance to the Commission's analysis of the runway land charge, are whether the availability of higher revenue prior to completion of the second runway would:

(a) Result in AIAL setting a later completion date than it would set in the absence of a runway landing charge; and/or

(b) Reduce the incentive for AIAL to expedite completion of the second runway once it has made the decision to construct it.

Since, as noted earlier, a variety of analyses suggest that a monopolist such as AIAL has an incentive to delay such an investment later than is socially optimal the Commission has an interest in understanding these effects.

On the other hand, the Commission's analysis will need to consider the benefit of the runway land charge in offsetting the holding cost and thus the monetary value of the asset that will be added to AIAL's regulated asset base when the second runway comes into operation[7].

Auckland Airport's justifications for the runway land charge

AIAL's stated reasons for introduction of the runway land charge include[8]:

(a) "[The] *primary objective behind the Runway Land Charge is to provide a tool that can help create a sustainable price path for the second runway development over time*".

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[5] Zwartz, G.;Broer, D.P. (2012) "*Optimal Regulation of Lumpy Investments*" (TILEC Discussion Paper)

[6] See literature surveys in Borrmann, J.; Brunekreeft, G. (2011) "*The Timing of Repeated and Unrepeated Monoploy Investment under Wear and Tear and Demand Growth*" Bremen Energy Working Papers No 8, and in Evans, L.T.; Guthrie, G. (2011), "*Price-Cap Regulation and the Scale and Timing of Investment*" The Rand Journal of Economics, November 2011.

[7] The benefit of reducing the addition to the regulated asset base could be negated in respect to charges applied to off peak flights by the inefficiency involved in the off-peak situation as discussed earlier. Reducing the asset base for the benefit of future travellers by applying the runway land charge to off-peak travellers whose travel is not generating the need to for a second runway would also be inequitable to them.

[8] Pages 58 & 59, *Price Setting Disclosure*, Auckland Airport, August 2017.

(b) "*the Runway Land Charge ensures a more equitable distribution of currently accruing holding costs over both current and future users*".

(c) "*the charge is consistent with economic principles including providing signals about the cost of demand in the transition to a second runway. The presence of the charge and its trigger-based nature provides airlines with a clear signal and corresponding opportunity to influence when the charge comes into effect through behaviour change that could efficiently delay the need for the second runway (eg peak spreading)*".

In considering whether the introduction of the runway land charge is in the long-term interests of consumers (air travellers) the Commission will be comparing fares and flight scheduling in the absence of the runway land charge, ie the current situation, with the result of AIAL applying the runway land charge.

To assist the Commission, this report examines how fares and flight scheduling reflect airport throughput constraints at present, without a runway land charge.

Pricing and capacity constraints

Firstly, it should be noted that air travellers' use of airport throughput capacity is determined by the airlines' provision of seats. This differs crucially from the use of roads, where individual end-user drivers decide whether to access the facility (roads) without facing any direct charge and make their decisions accordingly, thus creating resource consuming traffic congestion.

Flight scheduling and fares are determined by competition among airlines. The outcome of that competition is, however, constrained by factors that are not controlled by either AIAL or the airlines.

Obviously airlines can provide flights to and from AIAL only to the extent they have takeoff and landing slots at other airports. Thus, as an example, under some circumstances, the binding constraint on flights between Auckland and Wellington at a peak period could be takeoff or landing capacity at Wellington, in which case the second runway at Auckland could not remove the constraint.

Constraints other than runway landing and takeoff slots can also be binding, including security check throughput capacity and for international flights, biosecurity, immigration or customs capacity. If these constraints are binding at another airport that constrains the timing of flights between that airport and AIAL.

Importantly, constraints at other airports can constrain the extent to which peak spreading is possible. As one example, the ability to further spread the timing of international flights away from peak periods can be constrained by limitations on the ability of airlines to change their landing and takeoff times at overseas airports.

Subject to the constraints arising from the situation at other airports and the other factors noted, airlines will be motivated by competition, and the opportunity to earn additional revenue, to add flights and provide larger aircraft to the extent that their access to landing and takeoff slots permits. It is understood that the committee system that determines slot allocation typically "grandfathers" rights to slots but if a slot was not being utilised the airline concerned would be at some risk of losing it.

Thus competition will tend to result in additional flights and larger aircraft being scheduled to reflect demand until either fares reduce to close to the marginal cost[9] of providing additional seats or airport throughput capacity becomes a binding constraint. As noted, the factor constraining throughput is not necessarily takeoff and landing runway capacity.

At times of day when throughput is constrained, fares will be higher since less seats are available because the number and/or capacity of flights is constrained.

Airlines are sophisticated operators, with access to modelling capabilities and the ability to identify and negotiate among themselves arrangements such as code sharing to achieve optimal use of constrained capacity[10]. Provided airlines are not inhibited by the airport restricting airlines flexibility in the use of their gate and other rights, competition and negotiation between airlines will move airfares towards a configuration that at peak periods reflects capacity constraints and at off-peak periods provides additional seats at prices reflecting marginal cost. Thus competition among airlines seems likely to result in air travellers facing relatively efficient fare pricing that appropriately reflects capacity constraints independent of, and prior to introduction of, AIAL's runway land charge.

Ironically, one reason why the pricing will be only relatively rather than completely efficient is that AIAL does not reflect throughput constraints in its present charges. The charges are a component of the airlines marginal cost and thus off-peak fares will need to recover the full amount of the charges as otherwise the airline concerned would be operating the relevant flight at a loss. In contrast peak fares will be above marginal cost and to the extent that they fully reflect the constraints that are binding, airline fares will be already at the market clearing level and so airlines may effectively absorb part or all of AIAL's charges at such times rather than being able to increase fares.

Thus, as John Small has detailed, the incentive for air travellers to shift their travel timing away from peak periods will be weakened compared to the situation if AIAL's charges were low at off peak periods and higher during peak periods (with the total revenue collected being the same).

The AIAL intention to also apply the runway land charge at the same rate for all passengers, without regard to whether capacity constraints are binding at the time of the specific flight, would move airfares yet further away from a fully efficient configuration. Specifically the percentage differential between peak and off-peak fares is likely to be further reduced, albeit by a small amount.

In general the uniform application to all passengers of any airport charge including the runway land charge will increase off peak fares by the full amount but can tend to increase peak fares by less than the full amount of the charge, is likely to reduce the differential between peak and off-peak fares. The incentive for travellers to move their travel time from peak to off-peak will be weakened.

In summary, the both the current uniform airport charges and the uniform runway land charge as proposed by AIAL are detrimental to peak spreading which is an objective AIAL states it is seeking to achieve by the runway land charge. Nevertheless, it is important to recognise that the effect of AIAL's uniform charges is small compared to the peak versus off-peak pricing differential that results from airlines pricing.

Specifically, it seems likely that the key constraint that will eventually require construction of the second runway is the effect of the constraint on landing and takeoffs on the availability of seats on services operating at peak times, notably the domestic trunk routes on weekday mornings and evenings and international services arriving at those times. Fares already reflect the constraints on

[9] Including airport charges.

[10] Such negotiations need to have regard to the Commerce Act 1986.

those routes. Unless AIAL moved to an implausibly extreme variation in its charges between peak versus off-peak, it is difficult to see that the pattern of these charges will have any material effect on when the second runway will be required.

Sustainable price path

AIAL also state creation of a sustainable price path is a primary objective of the runway land charge.

After the opening of the second runway (and assuming non-runway related constraints such as biosecurity processing are not binding) airlines can expect to face additional competition. Such competition can be expected to significantly reduce peak period fares in real terms, subject however to AIAL's charges. AIAL has market power as a monopolist and thus has the power to price at levels which result in the new runway capacity being under-utilised or in an extreme case additional competition being very limited.

The profile over time of the recovery of the cost of the second runway land is an issue yet to be determined. Arguably, in a workable competitive market, an investor in an extremely long life asset such as a runway would look to recover most of its return on the land component of the asset over a long time frame as utilisation increased. This after all is the approach Sky had to follow in regard to its investment in satellite TV. Sky ran losses for many years before it became very profitable[11].

A tilted annuity approach could be compatible with efficiently encouraging utilisation of the second runway on completion. This is of course the approach being applied by Christchurch airport. The key parameter for decision under the tilted annuity approach is the degree of tilt.

As noted above, AIAL have asserted that the "primary objective behind the Runway Land Charge is to provide a tool that can help create a sustainable price path for the second runway development over time". The summary above of issues relevant to efficient pricing after completion of the second runway suggests these issues need to be addressed first to identify whether the runway land charge would contribute to a sustainable pricing path or instead would disrupt efficient pricing.

Conclusion

In conclusion, it is appropriate to reiterate that the purpose of this report is to set out some key implications of economic analysis to inform the Commission's assessment of the AIAL intended runway land charge. A full assessment of the effects of the runway land charge would need to be informed by a comprehensive examination of the issues regarding the pricing which would apply after completion of the second runway.

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[11]Sky now faces competition from the UFB, a technological innovation, but it is difficult to see AIAL facing that category of competition. Hyperloops or high-speed trains are not viable in the North Island's rugged landscape.