

Mr Tim May
Chief Executive Officer
Christchurch International Airport Limited

9 August 2023

Dear Tim,

Comments on submissions responding to the Commerce Commission Cost of Capital Input Methodologies Draft Decision for Regulated Airport Services

Introduction

1. In this letter we comment with respect to five issues that have been raised in submissions to the Commerce Commission's draft decision on the cost of capital input methodologies for regulated airport services, namely:
 - a. the reliability of beta estimates estimated using daily observations (responding to comments in the report by Oxera for the EDBs)
 - b. the Commission's criteria with respect to market comparability (responding to comments in the report by Castalia for Air New Zealand)
 - c. the treatment of the unsystematic component of the Covid-19 event (also responding to comments in the report by Castalia for Air New Zealand), and
 - d. the risk of airport services compared to those of traditional utility activities (responding to comments in the report by TDB for BARNZ).
2. These issues and our responses are set out below.

Daily frequency beta estimates

3. Oxera's submission on behalf of the New Zealand electricity distributions businesses (EDBs)¹ recommends placing weight on daily frequency beta estimates for electricity distribution services, arguing that the standard error of the beta estimates is reduced through including a larger number of observations. On the face of it, this appears to contrast with our conclusion that the Commission's new test of beta reliability for airport services (which is based on the differences between the beta that is estimated using monthly, weekly and daily observations) was likely just to indicate empirical issues with high frequency (i.e., daily) beta estimates. The correct response to such empirical issues is not to use the high frequency beta estimates, which has been the Commission's approach to date.

¹ Oxera, (19 July, 2023), Response to the New Zealand Commerce Commission's draft decision for Part 4 Input Methodologies Review 2023 on the cost of capital.

4. In expressing its view, Oxera referred to the study by Gregory *et al* (2015),² to which we also referred. Oxera expressed its view about the implications of this study as follows:³

the key finding of the paper is that the difference between beta estimates of different frequencies can be explained by size and liquidity factors ... [and since] ... the NZCC already applies liquidity filters... concerns about differences in liquidity as differential risk drivers should not drive a preference for using low-frequency estimation intervals in this case.

5. However, with respect, we believe that Oxera has not correctly conveyed the implications of the Gregory *et al* (2015) working paper and subsequent journal article (Gregory *et al* (2018)). The key finding of that study was that there were factors apart from “size and liquidity” that may cause a downward bias in betas estimated using high frequency data. Indeed, Gregory *et al* (2015, 2018) specifically excluded smaller firms from their study and controlled for liquidity, and presented a theory that high frequency data estimates of beta may also be less reliable when there is “opacity”:⁴

Opaqueness creates uncertainty about the effect of systematic news on the firm and this uncertainty affects how quickly such information is impounded into the prices.

6. A further key conclusion of Gregory *et al* (2015, 2018) is that whether opacity is likely to be present to a sufficiently material degree to cause bias to beta estimates where they are estimated using high frequency data is likely to vary by industry, and potentially also by jurisdiction.
7. Oxera’s focus was on the electricity distribution sector, and it is quite plausible that opacity is not an issue in the sector, given the utility nature of the service and resulting stability and predictability of cash flows. The fact that Oxera found the betas estimated using daily observations systematically to exceed those estimated using lower frequency data would appear to support this. In contrast, the cash flows of airports are more complex, amongst other things, being contingent on decisions of airlines and freight companies about capacity, location of hubs etc. This implies that opacity is likely to be a more material issue for this sector. Thus, we remain of the view that there is a material risk that betas estimated using daily observations will be downward biased for airport services, and so they should not be used directly (i.e., in deriving the beta) or indirectly (i.e., in judging the reliability of betas). However, as there is much less reason to consider this risk material in relation to electricity distribution services, this should not rule out their use in that other sector.

Market comparability

8. Castalia’s submission on behalf of Air New Zealand lends support to the Commission’s use of the FTSE Equity Country Classification as a filter for airport services comparators, although it rejected the use of relative Market Risk Premiums (MRP) as a

² Gregory, A., Hua, S. and Rajesh, T. (April, 2015), ‘In search of beta’, University of Exeter Business School.

³ Oxera, (19 July, 2023), pp.44-45.

⁴ Alan Gregory, Shan Huab, and Rajesh Tharyan (2018), “In search of beta,” *The British Accounting Review*, Vol. 50, p.426.

test of whether a market is sufficiently comparable. Having said that, rather than the FTSE classification the Commission applies, Castalia instead referenced the “MSCI Market Classification Framework” as an indicator of which markets should be relied upon for a beta analysis of airport services. Castalia justified limiting comparables to those from “developed” countries on the basis that:⁵

...beyond the developed group, however, the freedom and transparency of capital movements is restricted in unpredictable idiosyncratic ways. This in turn can impact not only the observed average market returns, but also the observed relationship between that average and the returns on individual stocks.

9. In addition, Castalia argued that airports in non-developed countries are likely to be subject to more arbitrary government interventions than those in developed countries. Whilst this was described as “unsystematic risk”, it was asserted that some of this unsystematic risk would be seen in estimates of asset betas.
10. In our earlier report, we observed that the difference between the FTSE Country Classifications of “developed” and “emerging” largely reflected the breadth of the derivative financial instruments available in the various markets. We observed that these additional instruments are not required for assets to be fairly-valued and for reliable estimates of betas to be obtained, and so whether firms were classified listed in “developed” or “emerging” markets is not justified as a filter of whether firms should be included in the sample of comparable entities. Our reading of the MSCI criteria to which Castalia refer is that they appear quite similar, and so the same observation would hold. We also note that if “the freedom and transparency of capital movements is restricted in unpredictable idiosyncratic ways” as suggested for “emerging” market countries, then there is a good chance that the country in question would not meet the criteria for an “emerging” market in any event.
11. In terms of the heightened risk of arbitrary government intervention, Castalia provides no evidence of this in relation to airport services aside from the recent Covid interventions in China, for which the airports were never the target, and which was a response to a public health crisis rather than an arbitrary intervention in any event. Our view is that the more likely targets of arbitrary government interventions are industries whose services account for a high proportion of domestic consumers’ consumption (like electric and water utilities) and those where large rents can be extracted (like mining operations). There is no obvious reason that airports would be a particular target for arbitrary intervention.

Unsystematic component of Covid-19 impact

12. The Castalia submission on behalf of Air New Zealand considers that part of the risk associated with Covid-19 is not systematic and can therefore be diversified away. The unstated implication is that if the risk is non-systematic then it can simply be ignored by the Commission.

⁵ Castalia (19 July, 2023), *Comments on the Commerce Commission Cost of Capital Input Methodologies Draft Decision for Regulated Airport Services*, p.6.

13. We note that the Commission’s consideration of the Covid 19 impact for airports has been limited to the effect of this event on systematic risk. This is because the Commission’s discussion has focussed on the effect on beta estimates, which will only reflect the systematic component.
14. That said, however, even if the event gave rise to only non-systematic risk – so that it could be diversified away at no cost and so not affect the cost of capital – this does not mean it is irrelevant. The non-systematic component of the Covid-19 impact is a Type-1 asymmetric risk event (using the Commission’s terminology), just like natural disasters. The Commission has long accepted that compensation for Type 1 asymmetric risks – either via ex post compensation as the Commission does for natural disasters, or via an ex ante allowance reflecting the expected cost of such an event – is required for financial capital maintenance (i.e., NPV=0) to be met.

Are airport services akin to traditional utilities or dependent on discretionary consumer-driven preferences?

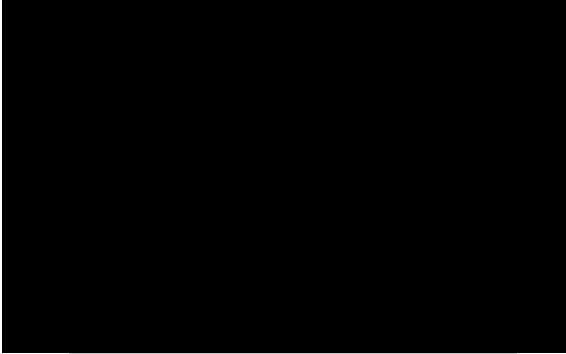
15. TDB, whose report formed part of BARNZ’s submission, proposes that airport services “come closer in risk profile to the lower-beta utility and infrastructure providers” because they are not as “dependent on discretionary consumer-driven preferences.”
16. However, TDB provided no evidence to support such an assertion, and its Table 1 showing the asset betas of industry sectors drawn from the database of Aswath Damodaran does not include airports as an industry. Indeed, intuition would suggest that asset betas for airports should be substantially higher than for traditional utility sectors. A large component of the demand for airports reflects leisure travel (both holidays and visiting family and friends), which would be expected to have a material discretionary component, especially compared to traditional utility (energy and water) services. Indeed, empirical estimates of the income elasticity of demand bear this out, with estimates for air services materially higher than those for energy services.⁶
17. More generally, however, the best evidence for the beta for airport services are the empirical estimates of betas for airports. Given that a reasonable sample of comparable airport firms can be established, there is little to be gained from broad brush comparisons across sectors. This evidence makes it clear that the systematic risk associated with airport services does not “come closer in risk profile to the lower-beta utility and infrastructure providers”.

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⁶ For example, the income elasticity of demand for energy has been estimated at between 0.60 to 0.80 (Jiti Gao, Bin Peng and Russell Smyth (2021), “On income and price elasticities for energy demand: A panel data study,” *Energy Economics*, Vol.96, Issue C), whilst income elasticity of demand for air travel has been estimated at between 1.0 and 2.0 (InterVISTAS Consulting Inc., (28 December, 2007), *Estimating Air Travel Demand Elasticities, Final Report*, for IATA).

Please do not hesitate to contact me if there is any matter in this that you would like to discuss further.

Yours sincerely,



Jeff Balchin
Managing Director