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

19 July 2023

1 Introduction

Air New Zealand engaged Castalia to review and comment on the Commerce Commission's (Commission) draft decision on the cost of capital input methodologies (IMs) for regulated airport services. In particular, Air New Zealand requested us to comment on:

- the Commission's treatment of COVID-19 and possible future pandemics
- the Commission's approach to selecting the company sample for estimating the asset beta for regulated airport services, and
- the overall reasonableness of the Commission's estimate as implied by observed Regulated Asset Base (RAB) multiples.

This note set out our views on the draft decision. Should you have any questions, or wish to discuss any aspect of this note, please contact Anton Murashev ([redacted]

2 Treatment of COVID-19 and possible future pandemics

The Commission identifies and assesses several options on how the impact of COVID-19 and possible future pandemics should be treated when estimating beta. The Commission summarises its approach as follows:

> We consider the most appropriate way of setting the asset beta in the circumstances is to apply a premium to the pre-COVID-19 long term average asset beta. This premium is uncertain; however, we consider it likely falls within the range of 0 to 0.04.

The Commission's calculation of the premium combines the actual impact of COVID-19 on historical betas with an assumed future frequency of pandemics of between once in every 20 to once in every 50 years. We broadly agree with the Commission's approach and provide our detailed comments below.

2.1 COVID-19 has elements of both systematic and unsystematic risk

The Commission's discussion of COVID-19 appears open to the possibility that pandemics may or may not be a systematic risk. In our view, pandemics impact both systematic and unsystematic risk, and the Commission needs to take into account both impacts.

A large portion of the risk created by the COVID-19 pandemic, and any possible future pandemics, is clearly systematic. This is because some risks a pandemic presents to an investor's returns cannot be diversified away within a market portfolio. All markets and industries have in one way or another been impacted by COVID-19 and the various response measures.

However, in the case of airport services, it is clear that air travel and border restrictions imposed during COVID-19 (and that could be imposed during any possible future pandemics) also created risks that are unsystematic and can in large part be diversified away by investing in industries that are not reliant on passenger air traffic.

2.2 New perceptions of pandemic risks are priced into actual betas, but post-pandemic data sample is too small to rely on for an accurate estimate

The Commission notes:

> Our view is that it is likely that COVID-19 provided new information that had not been included in the market's assessment of the airport asset beta, that the spike in the asset beta during the early stages of COVID-19 would be repeated in future pandemics, and that investors have repriced and reweighted airports in their efficient portfolio of investments.

We agree that COVID-19, as the first global pandemic event of this scale in the time of mass air travel, likely fundamentally shifted market perceptions of pandemic risks. We also agree that by now markets will have priced in pandemic risk, and this is reflected in the actual betas of listed companies, including airports. Unfortunately, actual betas cannot be observed, only estimated.

A first-best approach would be to use reliable estimates for actual betas that reflect the re-pricing of airport assets with the new market knowledge created by COVID-19 and responses to it. This would require using a data set that can only start from the point in time investors formed a view that air travel restrictions would largely be lifted. That point in time is highly subjective—the Commission uses 1 October 2021, while New Zealand did not announce a concrete plan to reopen borders until February 2022.

Regardless of the chosen cut-off date, the time horizon of any such data sample would be well below the Commission's usual ten-year period. Therefore, at this point in time the Commission is not able to adopt a first-best approach, but may be able to do so at the next IMs review.

2.3 Commission's Option 3 is the best pragmatic approach to estimating the appropriate asset beta for airports

The Commission defined several options for dealing with pandemic risk in the beta estimation approach. We support the Commission's Option 3 approach of relying on "pre-pandemic"

long-term average asset betas with an appropriate adjustment for pandemic risk, and appropriate cross checks on whether that adjustment is reasonable (the "post-COVID" set of beta estimates being one of those cross-checks).

The Commission concludes that long term pre-COVID asset beta estimate of 0.53 should be adjusted upward by 0.02 to account for the impact of pandemic risks. The 0.02 adjustment is a midpoint of the 0 to 0.04 range estimated by the Commission. The resulting asset beta of 0.55 approximately reconciles to the Commission's post-COVID cross-check beta estimate of 0.56.

We note that before reaching a final decision, it would be useful for the Commission to update its post-COVID cross-check beta estimate with the latest available data, which will increase the sample size.

Ours views on the other options considered by the Commission are as follows:

- Option 1: Using only pre-pandemic long term averages estimates—This option is clearly untenable as it would, among other things, ignore the systematic aspects of pandemic risk that have been crystalised through the COVID-19 event.
- Option 2: Exclude the asset beta data for the period from February 2020 to September 2021—Is similarly problematic in our view. The dates used for the exclusion time horizon are subjective, and the approach ignores the systemic aspects of pandemic risk.
- Option 4: Continue to use the average of the last two five-year periods—In our view this option should only be used as the absolute upper bound estimate for the asset beta. We note that, in a way, Option 3 incorporates aspects of Option 4, but adjusts the priced-in frequency of pandemic events from 10 years (implied if Option 4 is used) to 20 to 50 years (explicitly assumed in developing the beta adjustment used under Option 3).
- Option 5: Change the approach so that the asset beta is determined immediately prior to a regulatory period, using a 10-year period—In our view this option goes beyond the scope of dealing with pandemic risk, and fundamentally changes a key parameter of the regulatory regime. Such a change is not warranted for the light-handed nature of airport services regulation. Option 5 would also, until the end of 2031, lock in the full historical impact of COVID-19 on asset betas as a one-in-ten-year event. This would not be appropriate in our view.

Ultimately, the difficult challenge for the Commission is to estimate how much of an impact perceived pandemic risk will have going forward—not how much it has had in the past. The Commission's cross-checks suggest (though do not conclusively prove due to the short time horizon of the sample) that, following the volatile period during the height of the COVID-19 pandemic, there has been a very small uplift in recent observed asset betas compared to pre-COVID-19 levels. These cross-checks are consistent with the calculations undertaken by TDB and the Commission using the Flint methodology, which assume a pandemic frequency of 20 to 50 years.

Intuitively these findings make sense. Over many decades of mass air travel, COVID-19 was the first ever pandemic that resulted in global suspension of air travel. Governments and the air travel sector have learnt lessons on how the sector may need to respond to future pandemics.

Reviews of the policy responses to COVID-19 are now increasingly concluding that strict extensive lockdowns are bad policy both from a health perspective and from an economics one.[1] Even if lockdowns are imposed in future, they are likely to be shorter and more targeted, the air services sector is much more prepared to handle the impact than it was before COVID-19. Therefore, while the risk of global pandemics has remained the same, the market now understands that risk much better, and the risk of extensive lockdowns in future pandemics is arguably lower than it was during the COVID-19 pandemic.

This gives some comfort that the actual impact of COVID-19 likely gives a robust upper bound estimate of the potential impact of future pandemics on the air travel sector. Therefore, as long as the Commission's methodology:

- uses the actual impact of COVID-19 as the proxy for estimating the impact of future pandemics, and
- does not underestimate the likely frequency of pandemics that materially affect air travel, then
- the resulting adjustment should not underestimate (and undercompensate for) the future impact of pandemics.

In our view, the Commission's application of Option 3 is consistent with our logic above. Setting aside other possible adjustments we discuss below, we agree with the Commission's resulting asset beta estimate of 0.55 (the mid-point of a range of 0.53 to 0.57).

3 Beta company sample

In calculating its asset beta estimates, the Commission has used a narrower sample than the one originally selected by the Commission's advisers, CEPA. The Commission has removed:

> …firms from the sample that we do not consider are comparable to a major airport trading in New Zealand…

The Commission applied the following Indicators to exclude companies from the sample (numbering in bolded square brackets added by Castalia for ease of reference):

> **[1.]** Remove firms that operate in markets that are substantively different to New Zealand. We have used the Financial Times Stock Exchange (FTSE) Equity Country Classification and market risk premium as indicators.
>
> **[2.]** Remove firms that have unusually variable asset beta estimates. We have used bid-ask spreads, percentage of shares traded (free float %), and variability in asset beta across estimation method (daily, weekly and four-weekly) as indicators.
>
> **[3.]** Remove firms that have unusual business financing structures that create anomalies when converting the observed equity betas to asset betas. We have used leverage as an indicator where an issue is highlighted if leverage is negative.
>
> **[4.]** Remove firms that have business characteristics that are not comparable to a major airport operating in New Zealand. Our standard practice, which CEPA has applied, is to exclude firms that have delisted, are not involved in regulated airport operations, have a low percentage of aeronautical revenues, or had a low percentage of days traded.

[1] For example: Yanovskiy, M., & Socol, Y. (2022). Are Lockdowns Effective in Managing Pandemics?. International journal of environmental research and public health, 19(15), 9295. https://doi.org/10.3390/ijerph19159295, and Camera, G., & Gioffré, A. (2021). The economic impact of lockdowns: A theoretical assessment. Journal of mathematical economics, 97, 102552. https://doi.org/10.1016/j.jmateco.2021.102552

The Commission also noted that they:

> …have not used a mechanistic method (precise thresholds) when applying these indicators, but rather have applied judgement based on the information across the indicators when considering whether to exclude a firm from our comparator sample.

Under its approach, the Commission reduces its sample to eight companies:

- Beijing Capital International (operating in China, listed on Hong Kong Stock Exchange)
- Aeroports de Paris (operating in France, listed on Euronext)
- AENA (operating in Spain, listed on the Madrid Stock Exchange)
- Auckland International Airport (operating in New Zealand, listed on the New Zealand Stock Exchange)
- Flughafen Zuerich AG (operating in Switzerland, listed on the SIX Swiss Exchange)
- Flughafen Wien AG (operating in Australia, listed on the Vienna Stock Exchange)
- Fraport AG Frankfurt Airport (operating in Germany, listed on the Frankfurt Stock Exchange)
- Sydney Airport (operating in Australia, up until recently listed on the Australian Stock Exchange)

The use of judgement and lack of underlying data provided makes it difficult to independently verify the Commission's application of its stated method for removing unsuitable firms. We therefore address the logic of the Commission's stated approach and, to the extent possible, its application.

3.1 Indicators 1, 3 and 4 have sound grounding, while Indicator 2 does not

While we generally support the Commission's use of Indicators 1, 3, and 4, we would encourage the Commission to consider whether it has applied these Indicators consistently and appropriately.

We do not support the Commission's use of Indicator 2, because we are not aware of any theoretical or empirical grounding for improving the accuracy of beta estimation by excluding potential comparator firms from a sample based purely on measures of beta volatility. We therefore recommend the Commission should not rely on Indicator 2 in deciding which firms should be removed from the sample.

3.2 Application of Indicator 1 should focus on market type, not the size of the market risk premium

Our understanding of Indicator 1, is that the Commission is seeking to remove from the sample airports that operate in emerging markets, retaining only those operating in "developed" markets. We agree that this approach is appropriate and note that the Commission's sample for estimating energy betas is also limited only to "developed" markets.

CEG correctly notes that the systematic risk of emerging markets is accounted for in the market risk premium of the relevant market, and does not therefore feed into the beta. We therefore agree with CEG that, in isolation, higher market risk premiums seen in emerging

markets should have no bearing on the Commission's decision of whether to retain a firm in the sample.

However, we consider that there are other reasons why the Commission should exclude from the sample firms that operate or are listed in "emerging", "frontier" and "standalone" markets under the recently updated MSCI Market Classification Framework (below we refer to these as "non-developed" markets).

Developed markets, by MSCI's definition must score "Very High" on the following criteria:

- Openness to foreign ownership
- Ease of capital inflows / outflows
- Efficiency of the operational framework
- Stability of institutional framework.

A market that scores well on these criteria ensures an environment where investors are free to make decisions that drive an open and transparent allocation of capital with minimum restrictions. This provides high confidence that observed market data provides a relatively accurate picture of both the actual underlying average market risk and the relative risk of individual firms compared to the market average.

When moving 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.

Further, in our view, the actual unsystematic risk of airports in non-developed markets can be materially different from those in developed markets. Airports, by their nature are essential infrastructure that supports other major industries, with major international airports creating reputational risks for the country in which they operate. It is therefore no surprise that the airport sector regularly attracts government attention in both non-developed and developed markets. Airports also run businesses with extensive health and safety risks, which usually results in extensive government regulation of the operations.

Many non-developed markets have government and regulatory mechanisms that are not as transparent and predictable as those in developed markets. The balance of power in any conflict between a firm and a government entity in a non-developed market is also likely to be more in favour of the government entity than it would be in a developed market. While part of this is reflected in the market risk premium for all firms operating in a non-developed market, airports, as essential infrastructure, are disproportionately affected by these factors. This disproportionate non-systematic effect would be seen in the asset beta, rather than the market risk premium.

In particular, we note that international airports operating in China were disproportionately affected by the Chinese Government's response to COVID-19. Chinese restrictions on international air travel have been more extensive and lasted much longer than those in any other major world economy.

We consider that the Commission should avoid the use of market comparators outside developed markets.

3.3 Consistent application of Indicator 1 requires removal of Beijing Capital International Airport from the sample

Taking into account the logic set out in the previous section, we note that the Commission should remove Beijing Capital International Airport Co Ltd from the sample. It appears that the reason the firm has remained in the sample is that it was listed on the Hong Kong Stock Exchange, rather than one of the mainland Chinese exchanges. However, the company's operations are in Beijing. In our view, the company should be excluded based on the same logic as the other Chinese airports that the Commission excluded.

For completeness, we also note that both Malta International Airport PL and Malaysia Airports Holdings Bhd should be excluded under Indicator 1, as neither are classified as developed markets. The draft decision excludes both of these firms, but only lists Indicator 2 as the reason for exclusion.

3.4 No other changes to the sample are required based on our suggested changes to the Commission's approach

We note that, other than the removal of Beijing Capital International Airport from the sample, no other changes to the Commission's sample would result from applying the changes we suggest to the Commission's approach. Under our suggested approach, removals result only due to market comparability and liquidity considerations (noting that we rely on the Commission's assessment of sufficient liquidity and have not independently verified the Commission's approach to that assessment).

Removing Beijing International Airport slightly reduces the asset beta estimate (unadjusted for pandemic impacts) from 0.53 to 0.52 and increases the leverage estimate from the revised sample to 26.9 percent. As a result, assuming the COVID-19 adjustment remains as per the Commission's draft decision, the pandemic-adjusted asset beta decreases to 0.54, while the equity beta estimate remains at 0.74.

4 Overall reasonableness

We agree that RAB multiples analysis appears to support the view that the Commission has not historically determined (or signalled that it plans to determine) regulatory settings that jeopardise Auckland Airport's ability to earn a reasonable return. However, given the light-handed nature of the regulatory regime, it is hard to know the extent to which the implied RAB multiple reflects the implications of the Commission's views on the appropriate cost of capital, as opposed to investors' views of the regulatory regime as a whole.

We do note that following the publication of the draft decision the Auckland Airport share price (and presumably the implied RAB multiple) did not materially shift. This suggests at least anecdotally that the decision was not viewed by the market as materially impacting Auckland Airport's expected future profitability.

5 Other matters

In this section we briefly comment on other matters considered by the Commission in arriving at its recommended cost of capital estimate for regulated airport services.

5.1 We support the use of the midpoint estimate

While we agree with the Commission's logic in setting an estimate above the midpoint for electricity network businesses, we also agree that no uplift beyond the midpoint is required in the case of airport services. This is because:

- the cost of capital for airport services is being used for monitoring, rather than price-setting purposes, and as a result does not impact the regulated parties' investments to the same extent
- the benefits and costs of underinvestment in airports are not as asymmetric as those for electricity networks, and
- undetected underinvestment that results in catastrophic failure is simply much less likely with airports, due to the discipline imposed by the airports' relatively sophisticated customers—the airlines.

In our view, it is sufficient for the Commission to continue to provide the standard error estimate alongside the cost of capital mid-point estimate.

5.2 We agree that no downward adjustment for aeronautical services is warranted

We support the Commission's draft decision to accept the findings by LJK Consulting and CEG that there is no basis for a downward adjustment to asset beta to reflect any potential difference in risk between aeronautical and non-aeronautical services.