Pat Duignan: Cross-submission on the Draft Decision of the Commerce Commission on estimation of beta for airport services.

Background

On 19 May 2026 the Commerce Commission released a draft decision that its estimate of investors **expected beta,** ie investors forward-looking risk assumption, is the average **observed beta** over **the three years from 1 January 2023** for a set of comparators for regulated airport aeronautical services.

The post-covid observed beta average is lower than the pre-covid observed beta average. The Commission states it "*had expected the pandemic premium to be positive, reflecting the view that Covid-19 provided new information that would cause investors to revise upwards the ongoing risks associated with investing in airport services*". The Commission suggests "*the lower observed beta indicates that Covid-19 does not appear to have increased investor exposure to systematic risk*".

On 29 May 2026 the Australian Energy Regulator (AER) released its draft decision to set beta for energy networks **with most weight given to the average of the longest possible period of observed betas [that period being the 33 years1992 to 2025]** with less weight to the most recent 5-year estimates.

This stark difference in methodology, averaging over 3 years versus averaging over up to 33 years, with the result being that Commission's expected beta estimate is less than the observed pre-covid level, is problematic for investment in the New Zealand regulated utilities.

I am making this cross-submission in the hope that my identifying the lack of an appropriate distinction between expected versus observed beta in submissions supporting the draft decision will result in the Commission remedying its analysis. This submission is a personal submission independent of any interested party[1].

I am undertaking this analysis of beta estimation having just completed an independent review of the AER's reasoning regarding beta estimation and other issues. Australia's energy legislation requires appointment of an Independent Committee to report on AER's draft decisions regarding each four yearly review of its Rate of Return (i.e. cost of capital) methodology. I was a member of the first such committee in 2018 and I was appointed Chair of the 2022 and 2026 Independent Committees. Our 2026 report will be published on 17 July.

[1] I have advised airlines (BARNZ) on regulatory issues, prior to 2021, but I have not at any time advised airports.

The purpose of this cross-submission

I am not suggesting the Commission should align with AER but rather that the Commission should:

1. Include in its analysis full recognition of the distinction between expected versus observed beta.
2. Give full consideration to the wider margin of uncertainty that results from using only a short period of observed beta data in estimating the expected beta.
3. Recognise the implications of the above two points for the choice of the historic time period of observed beta values that are used to estimate expected beta.

The central analytical issue

The TDB Advisory submission on the draft decision argues:

"The fact that the pandemic has not led to a systematic premium on equity betas, as originally envisaged, is all the more reason to pursue the Commission's proposed approach. There will no doubt be push-back from some quarters regarding these proposals – with arguments, for example, that three years of data are inadequate for the task at hand and inconsistent with the methodologies used in past IM reviews. In response to such arguments, we agree with the Commission that these three years of recent data provide the best reflection of current market conditions and expectations. Extending the sampling period – for example, by drawing in pre-covid data – would dilute the relative significance of the post-covid data and take the sample further away from being a forward-looking estimate for the period to which the estimates apply. And aiming to update and correct the approach used originally in the 2023 IMs, including the Flint-type adjustment for potential systematic effects of the pandemic, would not only appear inappropriate in light of the recent post-pandemic evidence, but would also risk re-igniting the uncertainties, anomalies, and controversies that arose when this approach was used earlier."

The Commission's draft decision states "*We agree with TDB Advisory's view that a stock's ongoing variation relative to the market will have incorporated the new information about the effects of a pandemic and the prospects of another pandemic occurring*".

In the next section of this cross-submission I explain what is missing from the TDB Advisory and the Commission's analysis and conclusions.

I explain why "*stocks ongoing variation relative to the market*", ie observed beta, will only partially reflect the effect of the pandemic on investors expected beta[2].

The new information about the effects of a pandemic and the prospects of another pandemic will have affected the average observed beta for the 3 years from 1 January 2023 (hereafter referred to as "the last three years") but investors will not just adopt that observed average as their expectation of beta for the near-term future.

Investors will instead consider the past levels of observed beta before, during and after pandemic as discussed in the next section of this cross-submission. To the extent they base their expectation on observed betas for non-pandemic periods they will add a premium reflecting two assessments. The first is their assessment of how much higher the observed beta would have been (ie above the actual average) if there had been another pandemic in the last three years. The second is their assessment of the probability of another pandemic over the relevant future time period.

Accordingly, I suggest investors expectation of beta is best modelled by applying a version of the Flint approach that the Commission applied in December 2023.

The estimation of expected beta

The task of the Commission in setting beta is to identify the expected beta value that investors would apply in deciding whether the regulated return available from providing capital to a regulated business reflects the relative risk of such an investment compared to investment in other businesses.

Beta is a measure of risk because its level (around an average value of 1) indicates whether the share price of the regulated business will react to economic shocks more or less strongly than the average share price reacts.

Clearly, the reaction of a share price to an economic shock will depend on the nature of the shock ie the type of shock.

Thus, the average reaction, ie the average beta, of a regulated business's share price to economic shocks in a given period will depend on the mix of types of shock actually experienced during that period (as well as other factors).

Investors and the Commission have to decide ahead of time what they expect to be the best estimate of the average beta that will be experienced over the regulatory period.

[2] The pandemic has revealed a risk for airport service businesses that had not recently been experienced. The now revealed severity of the impact of a pandemic reduces the value of airport service businesses. The reduction in value implies an increase in the reaction of airport services stocks to non-pandemic economic shocks since the impact on such business cashflows will be a higher proportion of their value, all other factors held constant. This is not however the full effect on investors expected beta.

Investors know that the actual average beta that will be experienced over a regulatory period will almost always differ from the value they expected at the start of the regulatory period, because the actual mix of different types of shocks will differ from the mix that they expected and other factors will also have random effects.

In deciding the weighting to give to average observed betas over different time periods, a regulator must balance considerations.

A long-term average of observed values for any parameter has the advantage that the effect of random upward and downward measurement biases and other random effects ("noise") are diluted. A longer-term average has a lower statistical margin of error than a shorter-term average.

In the case of beta, a long-term average has an additional major advantage that it reveals the results of weighting different types of shocks by their historic relative frequency.

The advantages of a long-term average in informing the estimate of the expected value of beta needs, however, to be balanced by consideration of whether there is reason to believe the nature of the regulated business, the nature and frequency of different types of economic shocks or the composition of the market index has materially changed.

Given a short-term average of observed beta data in results in a higher statistical margin of error and may reflect only a limited range of types of economic shocks and an atypical frequency distribution of types of shocks, the optimal approach would seem to be that the regulator consider both long-term and short-term averages and applies regulatory judgement. The weighting given to the short-term averages should be based on an analysis of the changes that are reflected in those short-term averages.

The Commission's December 2023 beta decision applied the optimal approach described above by down-weighting the then most recent short-term average ie for the pandemic period.

The pandemic increased the observed beta for airports to considerably higher levels than had been previously observed. In 2023, the Commission decided it needed to change methodology for determining the value for the expected beta. The Commission considered that its previous methodology of giving an equal weight to the average for the most recent 5 years, which included the very high pandemic period observed beta, would be out of proportion to the likely frequency of pandemic shocks.

The Commission addressed its concern by reducing the weight given to the pandemic period utilising an approach developed by Flint consultants for the UK Civil Aviation Authority.

In my view the Commission December 2023 approach correctly reflects how investors will have determined their expected beta in December 2023. (The Commission's actual calculations were erroneous as explained in the draft decision.)

The key issue – the post pandemic effect of the pandemic on investors expected beta versus the effect on observed beta

The issue now is what will be investors expected beta for the near-term future ie from 2026.

TDB Advisory and the Commission argue that investors expected beta for the near-term beta will be simply the average of the observed beta over the last three years.

As noted earlier, I suggest instead that investors, in forming their expectation, would start by considering the past levels of observed beta before, during and after pandemic. They would recognise that the three years since 1 January 2023 have been a period of rapid growth in share prices which suggests that there have been fewer negative shocks than would be expected on average. Investors would recognise this might explain why the average observed beta over this period is lower than the average over the 5 years preceding the pandemic. They would also recognise, as discussed below, that the standard error of the post-covid average is so large that difference between the pre-covid and post covid estimates may well be just statistical noise.

Crucially, investors will also consider whether the average observed airport services beta for the last 3 years would have been higher than the actual observed level if there had been another pandemic in the period, all other shocks being those that actually occurred.

Thus, the key issue is whether it is plausible that observed beta would have been the same or lower if another pandemic had occurred over the last three years. In my view investors will correctly conclude that the observed betas for airport services would have been higher.

Based on that conclusion investors will use an approach similar to the Flint approach to determine their expectation regarding near-term bata.

I am not arguing that the Commission has to accept my intuition on this question. My suggestion is rather that the Commission needs to undertake a thorough analysis of what is meant by "*incorporated the new information*".

TDB Advisory and the Commission have concluded that the data indicate airport services are now less risky than before the pandemic. Given that this conclusion is extremely counter-intuitive, and the standard error of the data is very high, the onus should be on the Commission to undertake a thorough examination of whether the market conditions or simply statistical noise explain this situation.

The Commission has not adequately recognised the wider margin of error resulting from averaging over as short period as three years.

The standard error estimates included in the current draft Reasons Paper reveal that the average observed beta for the last three years has a much higher standard error than the long-term 2007 to 2020 average.

Indeed, the standard error is higher than for the pandemic period, which the Commission attributes to an anomaly affecting the four weekly observed betas. The high standard error implies the observed four weekly beta at various times during the last three year have been very different from the average level. The draft Reasons Paper does not attempt to identify the source or nature of the anomaly.

The practical effect of limiting the estimate of investors expected beta to solely an average of post-covid data is that the result is subject to a wide margin of error due to random noise as well as potentially reflecting an unrepresentative range and pattern of different types of shocks.

The Commission argues that the raw equity beta for the last three years being lower than the pre-covid beta indicates that the pandemic does not appear to have increased investor exposure to systematic risk. The Commission does not acknowledge that the very high standard error of the post-covid sample implies it is not possible to make reliable inferences regarding relative exposure to risk from comparisons with the pre-covid period.

The High Court Judgement

I turn now to the important issue of the High Court's judgement regarding the Commission's 2023 beta decision which was based on the Flint methodology.

The High Court's decision ruled that the Commission's use of the Flint approach was reasonable and that alternatives proposed by the appellants were not materially better.

The High Court, however, later in its judgement asserted that "*the Commission could have significant post covid data available for use for asset beta estimates. Given this, the Commission may not have to calculate a pandemic uplift to use as an input for future asset beta estimates. The relevant information* [the effect of Covid-19] *will have been incorporated into market expectations so that market data would provide the best basis for an estimate of the forward-looking beta*".

The Commission's assertion quoted earlier differs from the High Court's assertion. The Commission asserts "*the stock's ongoing variation relative to the market will have* *incorporated the new information"* whereas the High Court asserts that the "*relevant information will have been incorporated into market expectations*". Crucially the High Court's assertion relates to market expectations ie expected beta, whereas the Commission's assertion relates to observed beta.

In order for the Commission to be able to justify moving from the High Court's assertion regarding expectations to the Commission's assertion regarding actual observed beta it needs to undertake a full analysis and to refute the intuition that investors will apply a premium because investors will expect that if a pandemic had occurred in the three years from 1 January 2023, observed beta would be higher. It clearly is the case that if investors believe observed beta would have been higher if a pandemic had occurred then their expected beta would include a premium.

I turn next to the implications of the High Court's assertion that "*the Commission could have significant post covid data available* [and if so] *market data would provide the best basis for an estimate of the forward-looking beta*".

The onus is on the Commission to determine what the length of period would be "significant".

As explained above, basing the estimate of the expected value of beta on a long-term average, in effect, weights different types of shocks by their historic relative frequency as well as diluting the effect of random upward and downward measurement biases and random effects ("noise").

In contrast a short-term average of observed beta data may reflect only a limited range of types of economic shocks and an atypical frequency distribution and will have a wider margin of uncertainty due to random upward and downward measurement biases and random effects ("noise").

Therefore, an estimate based on a short-term average is less likely to accurately reflect investors expected beta since that will be based on investors inclusion of a wider range of types of shocks.

The Commission has not offered any evidence that investors are now determining their expectations of beta solely on the basis of the post-covid experience. Indeed, there would seem to be an internal inconsistency in the Commission asserting that "*the stock's ongoing variation relative to the market will have incorporated the new information"* but that investors will not have regard to pre-covid information on the effect of shocks. Arguably, it would be rational for investors to pay particular attention to pre-covid data on the basis that they expect economic shocks to revert to their pre covid long term pattern, albeit modified by the pandemic experience.

I realise the Commission may consider it is somewhat constrained by the High Court's judgement and should respect the assertion that post covid data "*market data would provide the best basis for an estimate of the forward-looking beta*".

It is surprising that the High Court, having determined that the Commission has a wide discretion in deciding on its cost of capital methodology because a variety of methods are reasonable, has then asserted what constitutes the best basis for estimation.

Furthermore, the advantages of a long-term averages in reflecting a more representative range of economic shocks and the contrasting higher margin of error of a short-term average of are not mentioned in the reasoning leading up to this assertion.

The conclusion of the relevant paragraph of the judgement, {251], is "*In this sense, the use of a pandemic uplift by the Commission in its 2023 Determination neither implies that this uplift will be needed in the future nor creates any ongoing regulatory uncertainty.*" This point could have been made without the use of post-covid data being asserted as the "best" basis for estimation.

If the Commission considers it is constrained by the High Courts assertion as to what is the best methodology for estimation of the forward-looking beta, I suggest the Commission could ask the High Court to clarify whether it intended to constrain the Commission and whether the High Court had considered the wide margin of error of a short-term average.

Conclusion

Continued use of the Flint methodology requires exercise of regulatory judgement as regards what would be an objective assumption regarding the probability of a pandemic during the future period for which an estimate of investors expected beta s required.

That just reflects the reality that the pandemic revealed a type of material risk for airport service businesses that had not recently been experienced.

A pandemic did not occur in the last three years and consequently investors will recognize that the observed average beta is lower than it would have been if a pandemic had occurred.

Given the above, I suggest that investors expected beta is best estimated by the Flint methodology.

Pat Duignan

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