

ANNEX: COST OF CAPITAL

CEPA has been appointed by IATA to provide advice on cost of capital issues. In this annex, we respond on behalf of IATA on the CAA's H7 Final Proposals. Our response is limited to presenting new evidence or responding to methodological changes from the CAA in its Final Proposals.

While the real vanilla WACC has fallen by c.140bps from Initial Proposals to Final Proposals, this is driven primarily by a change in inflation. In our view a number of issues previously highlighted are unresolved. In addition, the CAA's Final Proposals have created new issues, with commentary at odds with the parameter estimates chosen.

We would refer readers back to the CEPA response to Initial Proposals for a full description of our views on a suitable H7 Weighted Average Cost of Capital (WACC)¹. In that response (Section 2.3), we set out issues for the CAA under seven themes. The most prominent area of disagreement was around the asset beta, while our view of the cost of debt differed significantly from the CAA's estimate.

Combining CEPA's mid-point asset beta estimate and the CAA's current view of all other parameters would reduce the real vanilla WACC to 2.48% (from 3.26%). In our view, the correction of two material errors within the CAA's approach that are not supported by precedent and give counter-intuitive results would lead to a more appropriate WACC. On the asset beta, we suggest that the CAA should reconsider:

- The inclusion of the uplift for relative risk changes in the period pre-2020 and for H7 (excluding enduring pandemic effects and the TRS), given the CAA's pre-pandemic asset beta position.
- The use of an enduring pandemic effect that departs significantly from empirical evidence and broader precedent on beta.

In the remainder of this annex, we provide context by setting out our published cost of capital range in response to the CAA's Initial Proposals. We then discuss how the CAA's cost of capital range has evolved for Final Proposals and provide further detail on the issues we identify with its approach.

1.1. CONTEXT

In the table below, we compare the CAA's Initial Proposals (IP), CEPA's response to IPs and the CAA's Final Proposals (FP) for H7. We provide the parameter estimates (in real RPI terms unless otherwise stated) and a high-level summary of the points raised in response to the IPs.

¹ CEPA (2021) Response to CAA H7 Initial Proposals: Cost of Capital.

Table A.1: Comparison of cost of capital estimates and discussion of points raised in response to IP

Parameter	CAA IP	CAA FP	CEPA response to IP
Risk-free rate	-1.80%	-2.03%	-2.44%
	<i>We did not raise specific issues, although our approach differed to the CAA. The FP estimate has increased due to market movements and a shorter averaging period.</i>		
Total Market Return	5.85%	5.85%	5.20% to 6.00%
	<i>We did not raise specific issues, although our approach differed to the CAA. The FP estimate is unchanged from the IP mid-point.</i>		
Pre-pandemic asset beta	0.50 to 0.60	0.50	0.45 to 0.50
	<i>The core issues raised were around comparator selection, relative risk assessment, a balanced evaluation of empirical evidence and weight on longer term evidence. The CAA has now separated out relative risk changes for H7 capacity constraints.</i>		
Uplift for relative risk differential	n/a	0.00 to 0.10	n/a
	<i>This is new in the FP, so was not discussed in our IP response.</i>		
Uplift for enduring pandemic impact (post-TRS)	0.02 to 0.07	0.02 to 0.11	0.01 to 0.02
	<i>We raised issues with the CAA's proposed 'pooled' beta approach, the assumed duration and frequency of pandemic scale events. The FP is higher with a longer assumed duration of pandemic impact.</i>		
Risk mitigation impact on asset beta	0.00	-0.08 to -0.09	-0.04 to -0.08
	<i>We asked the CAA to include the impact of risk mitigations on the asset beta. This has been incorporated for the FP.</i>		
Overall asset beta	0.52 to 0.67	0.44 to 0.62	0.38 to 0.48
	<i>There was a large difference between CAA IP and CEPA estimates. The FP has narrowed this gap, but there is limited overlap of ranges and the CAA FP range is now wider.</i>		
Nominal cost of embedded debt	4.60%	4.14%	2.73% to 3.61%
	<i>We proposed a shorter tenor and trailing average period relative to the CAA. The FP reduced the trailing average period, though did not change assumed tenor.</i>		
Nominal cost of new debt	2.24%	3.60%	1.95%
	<i>We proposed a tenor consistent with our embedded debt assumption. The FP cost has increased, largely driven by market movements.</i>		
Real cost of embedded debt	1.98%	0.17%	-0.31% to 0.47%
	<i>We proposed a daily series of market estimates of inflation, while the CAA IP used OBR forecasts. The CAA has changed its approach for FP and used updated inflation assumptions.</i>		
Real cost of new debt	-0.37%	0.89%	-1.64% to -1.58%
	<i>Differences in inflation assumptions are as per embedded debt.</i>		
Gearing	62% to 61%	60%	60%
	<i>We recommended not basing gearing on prior performance. The FP and CEPA ranges are now aligned.</i>		
Real Vanilla WACC	3.6% to 5.7%	3.26%	1.3% to 2.8%
	<i>The differences above resulted in significant difference in cost of capital estimates. The gap between the CAA and CEPA has narrowed, though the CEPA IP response does not include recent market evidence on bond yields and inflation.</i>		

Source: CEPA, CAA. Note: italicised text compares the CAA's Initial Proposals and CEPA's response to Initial Proposals.

In the areas where we raised comments, for its Final Proposals:

- The CAA has increased the asset beta, when excluding the risk mitigating impact of the TRS mechanism (which the CAA has explicitly included within its FP range). The asset beta range has also widened. The CAA has been explicit in utilising an upwards adjustment for changes in relative risk for the H7 period.
- The CAA has reduced the nominal cost of embedded debt through use of a 13.5yr non-collapsing average (from 20yrs originally) - the decrease in the cost of embedded debt from this change has been offset by additional costs of borrowing and an increase in current yields for the nominal cost of new debt.
- The most material change in WACC is due to changes in assumed inflation, which are significantly higher for the FP estimate relative to the IP estimate.

We discuss each of these points in more detail in the subsequent sections of this annex.

1.2. ASSET BETA

Pre-pandemic asset beta and relative risk assessment

The CAA has created two individual components for the asset beta (excluding any enduring pandemic effects and new mitigation mechanisms):

- a pure pre-pandemic asset beta (CAA estimate = 0.500)
 - The pure pre-pandemic asset beta is intended to represent empirical evidence on comparators and an assessment of systematic risk for Heathrow relative to the comparators. This assessment excludes the effects of the pandemic and the introduction of Traffic Risk Sharing (TRS).
- an uplift to reflect HAL's changing risk exposure at H7 relative to comparator airports (CAA estimate = up to +0.100 uplift).
 - The uplift is intended to reflect how the covid-19 pandemic has impacted its relative risk assessment of Heathrow relative to its comparators (other effects of the pandemic are captured separately).

We agree with the CAA's decision to reduce the pre-pandemic asset beta and its acknowledgement that Heathrow faces lower systematic risk than the core comparators used in its empirical analysis. However, the evidence does not support the use of an uplift above the pure pre-pandemic asset beta proposed by the CAA and we do not support its use.

We discuss each point in turn below.

Pure pre-pandemic asset beta

In response to the CAA's H7 Initial Proposals, we (CEPA) proposed a pre-pandemic asset beta estimate of 0.450-0.500. This included our assessment of relative risk in the H7 period i.e., including any changes in relative risk arising from the pandemic. The CAA's Final Proposals estimate of 0.500 sits at the top end of this range, prior to the CAA's additional uplift.

We have previously presented arguments in response to CAA H7 consultations around how to arrive at a balanced estimate of the pre-pandemic asset beta. These arguments include the use of a broader comparator sample, the choice of relative index and selecting the appropriate time horizon. We do not repeat those arguments here, but we consider that the evidence indicates that a reasonable point estimate of the pre-pandemic asset beta should be lower than the CAA's Final Proposals estimate.

Relative risk exposure for H7

A capacity constraint is the key relative risk driver highlighted by the CAA. The capacity constraint reduces systematic risk, given the buffer provided by excess demand to absorb downside risks.

We consider that the CAA’s proposed uplift (up to +0.100) for the impact of the pandemic on risk differentials from H7 should be removed. The CAA does not reduce comparator betas for the capacity constraint prior to the onset of the pandemic in a way that is consistent with the proposed uplift.

The CAA’s pure pre-pandemic asset beta includes analysis of empirical comparator betas and an adjustment to those empirical beta estimates for relative risk. We accept this approach, which is consistent with the approach it applied to the Q6 price control.

We present in Table A.2 a review of the CAA’s empirical beta evidence and implied adjustment for relative risk at the Q6 and H7 Final Proposals. This highlights the significantly reduced relative risk adjustment for H7.

Table A.2: Asset betas and relative risk assessment

Asset beta	Q6	H7
Empirical betas (mid-points)		
Aéroports de Paris	0.595	0.480
Fraport	0.535	0.540
Aena	Not available	0.520
Average	0.565	0.513
Regulatory determination (mid-points)		
Heathrow	0.470	0.500
<i>Implied relative risk adjustment</i>	-0.095	-0.013

Source: CEPA analysis of CAA, Flint. Note. Inclusion of Zurich for a four-comparator sample at H7 increases the range. Inclusion of Vienna and Sydney brings down the H7 asset beta range.

The CAA has accepted our argument that Heathrow should be considered lower risk than the comparator airports. It says:

“We have concluded that we agree with CEPA’s assessment that a full analysis of relative risk, excluding the impact of the pandemic, may suggest an asset beta for HAL below that of the comparator airports considered.” (para 9.60)

The use of ‘may’ in the above CAA statement is not conclusive however, the CAA is more definitive elsewhere:

“In our view, the pandemic has increased the H7 asset beta for two reasons ... it has narrowed the risk differential that previously existed between HAL and comparator airports.” (para 9.52)

The CAA goes on to explain the logic for this statement – notably that Heathrow had previously benefitted from excess demand relative to comparator airports, but that Heathrow ‘is not expected to benefit from significantly greater levels of excess demand than comparator airports in H7 overall.’

The CAA is clear there should be a downward adjustment to initial empirical comparator betas to reflect Heathrow’s lower relative risk. Taking CAA’s narrative at face value, the onset of the pandemic means that that Heathrow is lower risk than comparators, but the size of the risk differential has reduced (‘it has narrowed the risk differential’). However, the CAA’s asset beta estimate is not consistent with its commentary. **Our review indicates that the CAA has applied an initial downwards adjustment of -0.013 to the comparator evidence for H7. Any corresponding uplift to reflect the onset of the pandemic should then be no higher than +0.013. Instead, the CAA’s proposed uplift is as large as +0.100, i.e. almost ten times larger than the theoretical maximum uplift.**

If the CAA were to argue that there is an initial downwards adjustment of up to -0.100 from a higher baseline assessment (i.e., that the empirical evidence supports an asset beta of at least 0.600)², this would be incompatible

² There needs to be precision in estimating the asset beta, given the implications for the cost of equity and cost of capital.

with the comparator evidence. An asset beta of 0.600 would still be inconsistent with the CAA's asset beta estimates as it states that any risk differential is narrowed, not that it is eliminated.

The CAA has not presented any evidence to support its uplift of +0.100. Our analysis indicates that any uplift should be very small, based on an assessment of the capacity constraint being relevant at Heathrow over the holding period for an equity investment. The CAA uses 10-15yr and 10yr+ indices to set the risk-free rate, it is considering equity investment horizons longer than a single price control. The CAA's own presentation of traffic forecasts (the CAA's Figure 1.3) suggests that pre-pandemic traffic levels will be reached in 2024 or 2025 in the majority of forecasts. Based on these forecasts, it is not unreasonable to assume that, in the absence of a future pandemic-like event, over a 20yr time horizon that in 17.5yrs of the sample, the capacity constraint would be as relevant at Heathrow as it was prior to the pandemic. Any risk differential reduction should therefore be minimal.

The CAA's uplift estimate is also inconsistent with other aspects of its cost of capital estimate. By way of example we compare the size of the proposed uplift to the reduction in asset beta from the TRS mechanism.

- The TRS mechanism reduces volume risk within bounds by 50% of revenue and by 105% outside of defined traffic bounds (10% of deviation from traffic forecasts). This is symmetric i.e., it reduces risk on the upside and downside.
- The CAA's estimate of the risk reducing impact of the TRS on the asset beta is 0.080-0.090.
- The CAA has not explained why a weakening of the capacity constraint at Heathrow for H7 should be considered more impactful than the TRS.

Impact of the pandemic

We continue to disagree with the CAA's/ Flint's methodology for estimating the size of the pandemic impact on a forward-looking asset beta. While the approach may appear to be built on reasonable assumptions, the use of a singular 'covid window' and pooling observations creates an inappropriate upwards bias. This is made clear when looking at two simplified examples³.

Example 1:

For this example, we use Aena as the selected comparator. We consider two time periods:

- **Non-pandemic.** We use one year's actual data to the end of January 2020, using daily share prices against the Eurostoxx index. The resulting asset beta is 0.561. This is akin to the pre-pandemic estimate.
- **Pandemic.** We use one year's actual data from 1 March 2020, using the same methodology. The resulting asset beta is 0.979 (i.e., 0.417 higher than the pre-pandemic estimate).

We focus on a ten-year period including a pandemic in the first year. We use nine years of non-pandemic data following one year of pandemic data. The non-pandemic data is identical. As such, the period post-pandemic and pre-pandemic are equivalent.

If we assume that a pandemic occurs for one year in every ten years, intuitively you would expect that the asset beta to reflect one-tenth weight on the pandemic evidence and nine-tenths evidence on non-pandemic evidence. Investors are treating the airport asset exactly the same as prior to the pandemic in relative volatility terms.

This gives a weighted asset beta of 0.603 (i.e., $0.9 * 0.561 + 0.1 * 0.979$).

The uplift relative to a sample with no pandemic data is 0.042.

³ The simplified example uses indicative assumptions to provide a simplified example. In practice, we do not propose that the pandemic frequency should be assumed to be ten years, there is sole weight on Aena etc. To reiterate, we do not propose that one-year asset betas should be the basis for the pre-pandemic beta, but consider that shorter betas can be informative on any enduring pandemic impact.

The Flint/ CAA ‘pooled’ approach includes a single sample that replicates the non-pandemic evidence for nine years and includes one year of the pandemic data. This gives a pooled asset beta of 0.752.

The uplift is therefore 0.191 – almost five times higher than the weighted asset beta estimate of the uplift (0.042).

This is despite empirical evidence being identical to the pre-pandemic evidence for nine consecutive years, where investors behaviour mirrors exactly pre-pandemic volatility. The higher asset beta estimate in the pandemic year was only 0.417 higher than the non-pandemic asset beta. So almost half of the single year pandemic event is being captured in the Flint/ CAA approach for an assumed one-in-ten event.

Example 2:

Our second example is based on the same logic and data as Example 1, using Aena as a singular comparator, and for simplicity continuing to use a 1-in-10yr pandemic event.

We consider the impacts of adding further data to the sample within this approach. We assume that we are two years after a pandemic, with one year of pandemic data and one year of non-pandemic data. We are seeking to understand the impact of a third year of data, where this is a non-pandemic year.

Using the CAA/ Flint ‘pooled’ approach the asset beta we can see the impact of this in Table A.3.

Table A.3: Comparing results with additions of non-pandemic data

Data	Data sample	CAA/ Flint asset beta	Difference vs non-pandemic	Duration of impact	Pandemic frequency	Total impact on beta
Non-pandemic	1yr non-pandemic	0.561	-	-	-	-
1yr data	1yr pandemic	0.979	0.417	1yr	10%	0.042
2yrs data	1yr pandemic 1yr non-pandemic	0.946	0.384	2yrs	10%	0.077
3yrs data	1yr pandemic 2yrs non-pandemic	0.906	0.344	3yrs	10%	0.103

Source: CEPA analysis, Bloomberg.

The addition of non-pandemic data under the CAA/ Flint ‘pooled’ approach inadvertently lengthens the period in which there is an observable pandemic impact, with perverse outcomes. We can see from moving from two years of data to three years of data that the pandemic impact increases. This is despite the addition of a further year of non-pandemic data. The effects are very significant; moving from a total beta impact of +0.042 with one year of pandemic data to +0.103 with one year of pandemic data and two years of non-pandemic data. The effect increases as more non-pandemic years are added to the sample, based on this pooled approach.

In addition to giving counter-intuitive results, the approach is inconsistent with regulatory precedent. Regulators and competition bodies (e.g., CMA) often consider rolling asset beta estimates. Two-year rolling beta estimates would decrease to 0.561 with three years of data after the pandemic, from 0.946 with two years of data. The results of this approach are in conflict with the CAA’s/ Flint’s pooled estimate. We are not aware of regulatory precedent that supports the use of this pooled approach.

Extending the pandemic effect:

The CAA has exacerbated the pandemic impact error by repeating beta estimates from the start of the pandemic. Flint creates a 36-month period, based on 24-months of actual pandemic data, half of which repeats.

While the CAA and Flint agree that the pandemic impact period should reflect the time in which beta is impacted, their approach conflicts with this intention. The CAA’s upper bound assumes no normalisation until late 2023, with no differentiation between the next 12 months and the pandemic period from early 2020 to early 2022. This is contrary to the short-term observed evidence and has the effect of increasing the pandemic event uplift. When we

consider the observed magnitude of the outbreak of the pandemic event on market certainty, this assumption is unrealistic.

Swiss Economics (SE), on behalf of the Commission for Aviation Regulation (CAR) in Ireland, compared asset betas in the pre-pandemic period and the post-pandemic period in advising on Dublin Airport's cost of capital from 2023-26. SE found that in 2021 the asset beta for Aeroports de Paris (AdP) had fallen by c.0.075 and Fraport had fallen by 0.10, relative to the pre-pandemic period⁴. Aena's asset beta increased by 0.14. This contrasts to the CAA/ Flint approach, which assumes that asset betas for the same airports were elevated by around 0.40 (in this example), and would continue to be elevated for up to three years. Increasing the length of the assumed pandemic event is incorrect as there is no evidence that market participants view an airline stock as they did at the start of the pandemic, and is particularly impactful when combined with the pooled approach to estimating beta.

The CAA's discussion of linearity of investor expectations is misleading and misses the point. The OLS method is already giving very high weighting to individual days in the sample for the pandemic event (as illustrated by our previous winsorization results), as noted by the CAA – this itself is not linear.

When we consider investors directly, we do not consider that they would use pooled betas over 10yr horizons (the CAA/ Flint approach actually uses a hypothetical pooled beta over periods from 20yrs to 50yrs). The CAA has placed no weight on the weighted asset beta approach and full weight on the pooled approach proposed by Flint. The choice of method here makes a significant difference and the CAA's approach gives a non-intuitive result that is not supported by the observed evidence.

Other points:

We do not repeat our critique around the CAA's assumed duration and frequency of a pandemic-like event, but consider that these are still valid.

We continue to consider, as per our Initial Proposals response, that the pandemic uplift to the beta should be in the range 0.01-0.02, not the 0.02-0.11 estimate used by the CAA.

Impact of the TRS mechanism

We welcome the explicit adjustment to the asset beta from the introduction of the TRS mechanism. Structurally the approach developed by the CAA is similar to our proposals in response to the Initial Proposals. Accordingly, our response focuses on the individual parameters included in the calculation. We note below how the CAA's approach compares to our proposals:

- The CAA's post-pandemic, pre-TRS asset beta is higher than ours (as discussed above).
- The CAA's network utility asset beta benchmark is identical to our proposals i.e., average of Ofgem and Ofwat asset betas.
- The proportion of difference ascribed to traffic risk is 50-90%, compared to our 50-100% range.
- The proportion of traffic risk mitigated by the TRS is 50%, compared to our 50-64% range.

We consider that the CAA's assumed proportions could reasonably be higher and generate a slightly larger risk mitigation impact, however we generally agree with the basis for the calculation. We also note that if the CAA reduces the starting post-pandemic, pre-TRS pandemic asset beta, the size of the adjustment from the TRS mechanism will naturally fall.

⁴ For clarity, we are not proposing that the CAA should adopt the Swiss Economics approach, but use this to indicate the extreme nature of the CAA's approach to estimating an enduring pandemic-based uplift to beta.

1.3. OTHER COST OF EQUITY INPUTS

Total Market Return (TMR)

We agree with the CAA that the TMR is unlikely to be perfectly stable / fully independent of the risk-free rate and inflation. While the CAA has given described this this uncertainty is considered in arriving at their point estimate, we would consider that it would have been preferable to reflect this directly in the calculation of the TMR and Market Risk Premium (MRP).

We do not present new evidence on the TMR, but through retaining its Initial Proposals approach the CAA has not resolved the issues we highlighted (we note that its point estimate sits in our proposed range).

Risk-free rate

On the risk-free rate, the CAA has switched to using a 1-month averaging period (with a corresponding change on the cost of new debt) from a 6-month averaging period. We observe that yields on index-linked gilts have been very volatile in early 2022, with an upwards trend. We note that this will change the level of the risk-free rate and cost of new debt to be closer to current conditions, but as an approach it will lead to larger changes in regulatory allowances than a smoothed longer profile.

Debt beta

We do not present new evidence on the debt beta and did not previously raise issues with the proposed CAA range.

1.4. COST OF DEBT, INFLATION AND GEARING

Inflation – general position

In our response to Initial Proposals (and response to other CAA H7 consultations), we have utilised market measures of inflation, as opposed to professional forecasts⁵. When setting a real RPI WACC, RPI breakeven inflation means that there is direct comparability to the CAA's real RPI cost of debt framework and method of asset base indexation.

Consumers pay charges to Heathrow that are directly indexed to inflation. This means that consumers bear risk on outturn inflation. We consider that it is appropriate for those same consumers to pay a real cost of debt that subtracts any inflation risk premium to reflect the protections of the regulatory framework⁶ - this avoids consumers facing two costs; first through facing the inflation risk, and second through a higher than required real cost of debt.

We generally agree with the structure set out by the CAA to minimise expected inflation risk within period through separate deflation approaches for index-linked debt and nominal fixed rate debt. We will discuss these separately, however the approach is premised on setting an accurate view of expected inflation over the five years of the price control (for the nominal fixed rate debt component) and reflecting real 'on the day' estimates of inflation to capture real coupons on index-linked debt.

If we look at five-year breakeven inflation compared to five-year outturn inflation since the start of 1997, we find that breakeven inflation forecasts have underestimated outturn inflation by 10bps (over the equivalent time horizon). An

⁵ We note that our approach did not distinguish between inflation-linked debt and nominal fixed rate debt, favouring simplicity and capturing the real returns framework. Our proposed approach was structurally to the approach used by Ofgem in the RIIO price controls, albeit with a difference in the selected inflation forecast measure.

⁶ We note that with nominal fixed rate debt, Heathrow pays the nominal cost of debt with an embedded inflation risk premium. The argument may therefore involve a judgement of who should bear the inflation risk premium. If consumers implicitly pay the inflation risk premium on all debt and face outturn inflation risk, the CAA would need to ensure that there are benefits accruing to consumers at least to the same extent from the chosen framework.

evidence-based review of inflation forecasts versus outturn does not indicate that using breakeven inflation is problematic or asymmetric. We discuss this further in more detail below.

Real cost of embedded debt – general

The CAA's Final Proposals use a fixed 13.5yr trailing average of iBoxx GBP A/ BBB rated non-financial 10yr+ indices for embedded debt. We welcome the move from a collapsing 20yr trailing average to ensure that a notional approach does not materially over-compensate Heathrow's actual debt costs. We consider that a collapsing average is more representative of the notional company's debt costs.

We have not had sight of the CAA's more detailed analysis of Heathrow's actual debt costs (including their derivative portfolio)⁷, so are limited in our ability to assess how the allowance compares to Heathrow's embedded debt costs. We understand that the CAA has had regard to these costs in reaching its Final Proposals.

Real cost of embedded debt – index-linked debt

We agree with the CAA's use of expected inflation at the time of issuance, to deflating nominal yields. This provides a daily series of real yields that should minimise inflation risk in the given regulatory framework. As noted by the CAA, the real coupon on these instruments is based on inflation expectations at that time, over the term of the debt. Higher than expected inflation would increase accretion in the debt balance, but is offset by an equivalent increase in the debt RAV.

The CAA states that *"it is difficult to estimate whole-life inflation expectations at each point in time, given limitations on data availability."* (para 9.220) This is surprising, as market-based daily breakeven inflation estimates are available over different time horizons.

A CAA statement that RPI inflation expectations were 2.50% up until 2014 (with a figure of 2.73% to deflate nominal yields) is incompatible with market evidence and understates inflation expectations. Use of 10yr breakeven inflation would increase inflation assumptions by 21bps (2.94%) compared to the CAA's assumption, while use of 20yr breakeven inflation would indicate a 54bps differential (3.27%)⁸. Higher inflation assumptions reduce the real cost of debt. We consider that the CAA should change its approach to use market-based inflation estimates.

This should be considered separately to any index-linked premium, which we discuss further below.

Real cost of embedded debt – fixed rate debt

Our comments for embedded fixed rate debt are consistent with the points raised above. The CAA uses OBR forecasts to estimate current expected inflation for the H7 price control. The OBR forecasts yield a lower inflation figure on average over the five years of H7 (4.56%) than the average 5yr RPI breakeven inflation estimates from March 2022 (4.74%), i.e., an 18bps difference. This gives a higher real cost of debt.

Real cost of new debt

The CAA's real cost of new debt estimate is based on nominal costs from the iBoxx GBP non-financials BBB index in March 2022. This is deflated by different measures for index-linked debt and nominal fixed rate debt. Index-linked debt is deflated by a view of long-term forward-looking inflation, which falls to 2.17% in 2026.

Heathrow still has a senior debt credit rating of A- from Fitch and it is unclear that a BBB index is required to reflect debt costs over the five years of H7.

The CAA's inflation estimate of 2.17% across H7 is incompatible with market expectations. If we use RPI breakeven inflation over 15yr and 20yr horizons, we can infer 15yr inflation in five years' time. The interpolation method finds

⁷ We would want to ensure that the shifting of interest costs into H7 from the pandemic period has not been incorporated into these assumptions, otherwise it creates perverse incentives and allows the regulated company to 'game' the system.

⁸ Calculations are made from 1st August 2008 to 30th June 2022.

the implied RPI inflation forecast is 3.98%, based on March 2022 data – this does not indicate the significant fall in expected inflation posed by the CAA. The CAA should use market-based inflation expectations here.

Premia included in cost of debt allowance

Index-linked premium

Where there is a higher spread on index-linked debt compared to nominal debt, we do not oppose the use of a premium in theory. However, it is only suitable and consistent to the extent that a market measure of inflation is used to deflate a cost of debt allowance for index-linked debt. In our view the CAA has failed to identify a balanced holistic view, which means that the real cost of debt is overestimated.

HAL-specific uplift (i.e., negative halo effect)

The CMA has previously ruled against the application of a positive halo effect from Ofwat at PR19⁹:

“Given the difficulty of measuring an exact comparison of bonds, tenor and credit rating between a relatively small sample of company bonds and a broad index, differences of 6bps as measured by Ofwat (with an acknowledged sample skew above the notional credit rating) and 1bps as measured by KPMG (both in terms of bonds -5 to +5 years relative to the benchmark average) are not in our view strong evidence of a ‘halo effect’.”

The CAA’s sample is smaller as it includes one company rather than the number of companies in the water sector. The CAA’s estimation of a negative halo effect i.e., a HAL-specific premium, is not built upon robust evidence and should not be applied for either embedded or new debt.

When discussing the HAL specific premium in respect to new debt, the CAA states that: *“Consistent with our position in respect of the equity beta for H7, we do not consider that data from during the pandemic period represents a useful benchmark for the H7 period. The circumstances that underpinned the observed issuance spreads are unlikely to persist throughout H7, and there are signs that pandemic-related premiums have already significantly abated.”* (para 9.332)

However, we can see in Table A.4 that the large amount of debt issued during the pandemic under an unweighted average approach is underpinning the CAA’s estimate of a HAL specific debt premium i.e., negative halo effect.

Table A.4: CAA’s analysis of HAL specific premium

	Unweighted average spread	Weighted average spread
All data	-7bps	+8bps
Pre-2020 debt only	-23bps	-9bps

Source: CEPA analysis of CAA.

Two-thirds of debt instruments in the full sample exhibit a positive halo effect, and an unweighted average of spreads finds a positive halo effect of 7bps. Excluding the pandemic, there is a positive halo effect of 9-23bps. This differs to the negative halo/ HAL specific premium of 8bps used by the CAA.

When we examine the methodology applied for estimating the halo effect, there are effects ranging from -134bps to +81bps on individual bonds. The more concerning issue is where we observe a difference in halo effect estimates on the same day –13th April 2021- when we see two bonds with halo effects that differ by 63bps. A difference of this magnitude must raise questions around the estimation approach or Heathrow’s treasury strategy. The CAA must be certain that the 8bps HAL specific premium is consistent with recognising efficient debt costs. The variance in the halo effects should, in our view, have led to the rejection of any HAL specific premium.

There are further technical issues to note around the methodology:

⁹ CMA (2021) Final report. PR19 redetermination. Paragraph 9.750.

- We understand from discussions with the CAA that it has chosen iBoxx tenor ‘buckets’ to most closely match the underlying tenor of the bond has an impact. For example, we understand it has used a 7-10yr tenor for 10yr debt, rather than a 10-15yr tenor.
- CAA also applies an 8bps HAL specific uplift on new debt, despite using a BBB only benchmark debt index. The CAA states that: *“Our updated analysis suggests that the issuance spreads on HAL’s Class A debt in 2020 and 2021 were, on average, 16bps above the spreads on the average of the A and BBB rated iBoxx nonfinancial 10+ years indices. They were around 7bps above the spreads on the BBB rated iBoxx non-financial 10+ years index.”* (para 9.331).
Given the statements made in paragraphs 9.331 and 9.332, the use of an 8bps uplift on new debt above a BBB index is inconsistent with the CAA’s stated intent.

Other cost of debt inputs

Weight on fixed vs IL debt

We do not provide specific comments on the 70% weighting on nominal fixed rate debt and did not raise issues in our Initial Proposal response.

Share of new vs embedded debt in H7

We do not provide specific comments on the assumed weight on embedded debt in H7 and did not raise issues in our Initial Proposal response.

Issuance and liquidity costs

We included an allowance of 10bps for issuance and liquidity costs in our response to the CAA’s Initial Proposals. We do not provide comments on the CAA’s assumed 11bps.

Allowance for excess cash costs

The CAA has proposed a cost of funding pandemic-period cash balances of 7bps within its Final Proposals. This is intended as a one-off allowance. We are unclear on the basis for applying this in the context of setting a forward-looking cost of capital, and so suggest that it should not be allowed.

Gearing

We have no new arguments around the assumed notional gearing level and consider that the move to the lower 60% notional gearing is better supported than the slightly higher Initial Proposals figure.

1.5. AIMING UP/ PERCENTILE CHOICE

We welcome the CAA’s use of the mid-point of the range, following a considered approach, rather than assuming an automatic aiming up.

Important notice

This document was prepared by CEPA LLP (trading as CEPA) for the exclusive use of the recipient(s) named herein on the terms agreed in our contract with the recipient(s).

CEPA does not accept or assume any responsibility or liability in respect of the document to any readers of it (third parties), other than the recipient(s) named in the document. Should any third parties choose to rely on the document, then they do so at their own risk.

The information contained in this document has been compiled by CEPA and may include material from third parties which is believed to be reliable but has not been verified or audited by CEPA. No representation or warranty, express or implied, is given and no responsibility or liability is or will be accepted by or on behalf of CEPA or by any of its directors, members, employees, agents or any other person as to the accuracy, completeness or correctness of the material from third parties contained in this document and any such liability is expressly excluded.

The findings enclosed in this document may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties.

The opinions expressed in this document are valid only for the purpose stated herein and as of the date stated. No obligation is assumed to revise this document to reflect changes, events or conditions, which occur subsequent to the date hereof.

The content contained within this document is the copyright of the recipient(s) named herein, or CEPA has licensed its copyright to recipient(s) named herein. The recipient(s) or any third parties may not reproduce or pass on this document, directly or indirectly, to any other person in whole or in part, for any other purpose than stated herein, without our prior approval.



UK

Queens House

55-56 Lincoln's Inn Fields

London WC2A 3LJ

T. **+44 (0)20 7269 0210**

E. **info@cepa.co.uk**

www.cepa.co.uk

 **cepa-ltd**  **@cepald**

Australia

Level 20, Tower 2 Darling Park

201 Sussex St

Sydney NSW2000

T. **+61 2 9006 1307**

E. **info@cepa.net.au**

www.cepa.net.au