Equity Betas for Heathrow and Gatwick in the Q6 Price Control Review

Note prepared for British Airways[1]

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Introduction

This short note is intended to consider the appropriate beta for Heathrow and Gatwick airports as part of the Q6 determination. It is our view that the equity betas contained within the CAA's Initial Proposals have been chosen at a point estimate which does not reflect the decrease in systematic risks relative to the Q5 period. The reasons behind this assessment can be categorised into:

- changes in the UK regulatory framework for aviation;
- evidence from European comparators; and
- Q6 proposals for Heathrow and Gatwick.

This analysis is supplemented by further evidence that the CAA's initial proposals on equity betas do not correlate with the decrease in systematic risk for Q6. This decrease is relative to the equity betas used in Q5, which empirical evidence would suggest were at the very least sufficient for the airport's financing duty, despite the global financial crisis.

The UK regulatory framework for aviation

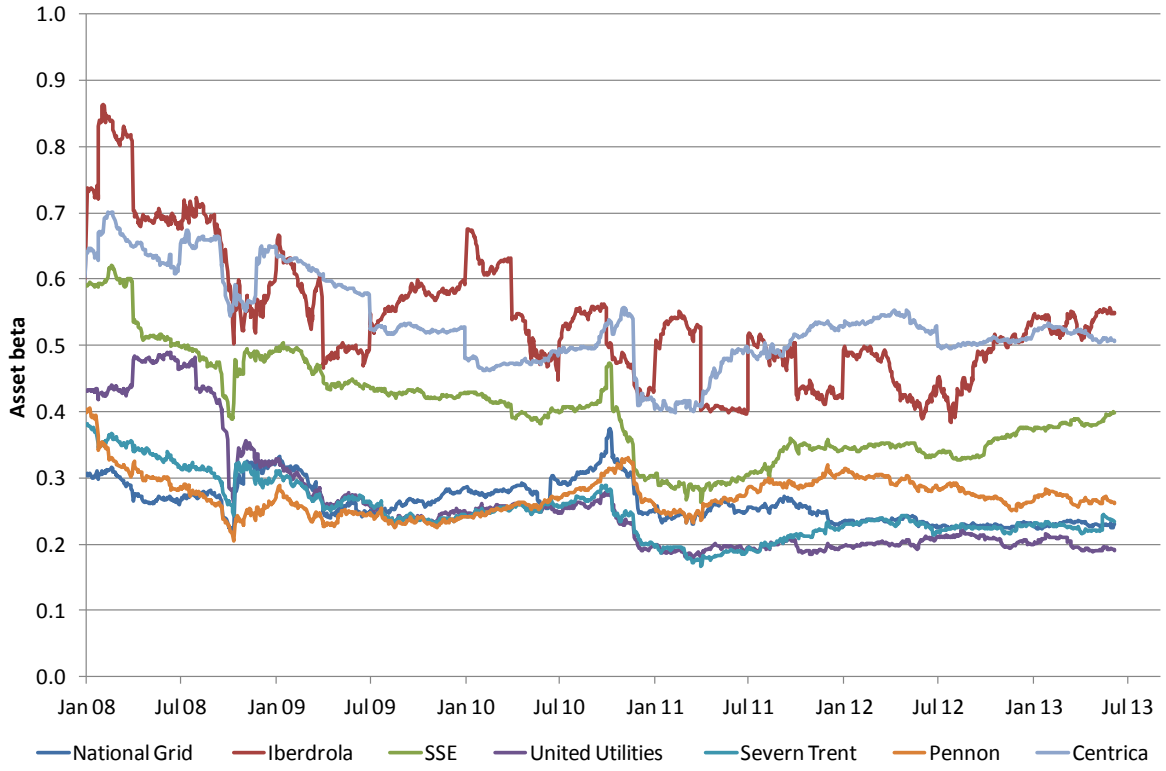
This section sets out how there is reduced domestic regulatory risk in the UK for airports during the Q6 price control review compared to Q5. The causes of the lower systematic risk are:

- the Civil Aviation Act 2012 reducing central government's role;
- the ability of the CAA to revisit the price control; and
- the splitting of the capital expenditure budget into a core and development pot.

Whilst these are specific to the aviation sector, other regulated networks in the UK have displayed decreased risk profiles, as shown in Figure 1.1.

[1] This note has been commissioned by British Airways. However, the views expressed are those of CEPA alone. CEPA accepts no liability for use of this note or any information contained therein by any third party.

Figure 1.1: Utility asset betas



Source: Bloomberg

In the original CEPA paper, we observed than the one-year averages for UK utility companies are below the five-year averages, suggesting a decrease in risk for network companies.

The Civil Aviation Act 2012

The Civil Aviation Act 2012 represents a key change to how aviation regulation operates. Its introduction increases both regulatory certainty and the flexibility of the operating environment for the CAA, reducing non-systematic risks. In terms of the reduced regulatory risk, there is a reduced role for central government in deciding upon determinations and less discretion through the use of regulatory licences. This all would point to a reduced equity beta.

Ability to revisit the price control

Through the licences and the regulatory regime set out in the Initial Proposals, one key aspect in which systematic risks are further reduced is through the ability of the CAA to revisit the price control should the assumptions made in the final determination be found to be inappropriate. The current regulatory setting meant that a fixed allowance for the quinquennium left airports with a high degree of volume risk. This is the key risk faced by airports and the option for the CAA to revisit their assumptions removes a significant element of this risk. The executive summary from the CAA also sets out that the traffic forecasts for Q6 include an allowance for traffic shocks, which was not the case in Q5, again leading to reduced systematic risk.

Initial proposals for capex

Furthermore, in Q6 relative to Q5, risk has decreased yet further with the splitting of the capital expenditure (capex) budget into a core and development budget. A difficulty for airports in proposing a budget for the upcoming regulatory period is that there will be costs which are unknown, given uncertainty around the scope and definition of projects. The proposal from the CAA is to have a pot for core projects where costs are largely known and the project is well defined. There will be an allowance set out upfront for projects which are less well defined,[2] but this allowance will be revisited to ensure that the proposed cost is accurate and does not expose an airport to risks where expenditure is incurred efficiently.

PwC Analysis

PwC's analysis found that non-financial companies have become less risky since the Q5 decision relative to financials. As an equity beta of 1.0 is meant to be representative of the entire market, this would suggest that airports as non-financials would be relatively less risky than prior to the financial crisis.

In conclusion, domestic airports have experienced a significant decrease in systematic risk since the Q5 determination.

European comparators

As set out in our cost of capital paper to the CAA, the absence of UK listed airports subject to regulation means that European regulated airports can be useful comparators, although we favour looking at the averages across a group rather than individual entities.

PwC analysis

The independent cost of capital paper prepared for the CAA by PwC uses a similar set of European comparator airports as applied in CEPA's paper on setting the WACC for Heathrow and Gatwick. These comparators are used to observe changes in beta estimates at the current point in time and find that asset betas for comparators have fallen by approximately 0.1 since the same point prior to the Q5 decision, although Copenhagen and Zurich airports both exhibited slight rises in the calculated equity beta.

Having looked at this evidence and the changes to the regulatory framework in Europe, PwC state that:

"evidence on the evolution of asset (and equity) betas for appropriate comparator airports suggests that, on average, their risk profiles have not evolved materially and in principle are broadly comparable to (and perhaps slightly lower than) estimates at the time of CAA's last determination.""[3]

Table 7.11 of PwC's analysis is presented below to demonstrate the observed change in betas:

[2] Initial allowances are scoped at the P80 level.

[3] PwC (2013) "Estimating the cost of capital in Q6 for Heathrow, Gatwick and Stansted: A report prepared for the Civil Aviation Authority (CAA)", at p. 78

Table 7.11 Asset betas across comparator airports

	31st Dec 2007		11th Mar 2008 (Heathrow and Gatwick Q5)		13th Mar 2009 (Stansted Q5)		28th March 2013	
Company name	**Spot**	**6m avg**	**Spot**	**6m avg**	**Spot**	**6m avg**	**Spot**	**6m avg**
Copenhagen Airport	0.42	0.45	0.36	0.40	0.48	0.53	0.59	0.57
Vienna International Airport	0.78	0.75	0.65	0.71	0.60	0.61	0.37	0.37
Zurich Airport	0.45	0.49	0.44	0.46	0.60	0.63	0.62	0.64
Auckland Airport	0.73	0.70	0.73	0.72	0.66	0.62	0.54	0.55
Florence Airport (Peretola)	0.91	0.91	0.89	0.89	0.59	0.51	0.43	0.44
Rome Airport (Gemina)	0.63	0.59	0.61	0.59	0.64	0.64	0.44	0.42
Sydney Airport	0.43	0.35	0.40	0.36	0.49	0.49	0.45	0.47
Frankfurt Airport (Fraport)	0.50	0.56	0.52	0.53	0.65	0.69	0.48	0.47
Paris Airport	-	-	-	-	-	-	0.58	0.55
Average	0.61	0.60	0.58	0.58	0.59	0.59	0.50	0.50

Source: Datastream and PwC Analysis.

Source: PwC[4]

The analysis presented above shows a significant decrease in asset betas. For example, using the six month averages from 31st December 2007 to 28th March 2013 shows a decrease in the average asset beta of one sixth. Assuming constant gearing, an equity beta of 1.15 at end-2007 would have been reduced to 0.96 by March 2013.

After conducting further qualitative analysis, we find that the rise in asset beta for the two European airports (Zurich and Copenhagen) is difficult to attribute to a rise in systematic risk. The reasons behind this statement are:

- Both have a high level of public ownership (40%), which means the perception of extraordinary assistance from governments had a significant impact upon the stocks during the uncertainty of the economic downturn.
- Both are relatively thinly traded.
- Copenhagen during this period had a downgrade in February 2010 to BBB- by Standard and Poor's, with a negative outlook published in December 2011. This potentially jeopardised their investment grade credit quality before returning to a stable outlook in December 2012. This would not be an issue for a company with a BBB+/A- credit rating in the UK.
- Zurich actually had credit rating upgrades in consecutive years, rising to A- in April 2011 and then A status a year later. These changes will have led to changes in price as the perceived risk falls, rather than itself suggesting higher risk.

[4] PwC (2013) "Estimating the cost of capital in Q6 for Heathrow, Gatwick and Stansted: A report prepared for the Civil Aviation Authority (CAA)", at p. 69

Regulatory framework

Changes within the domestic setting have decreased the risk for UK airports and a similar conclusion is reached when assessed within a European aviation context, with the European Airport Charges Directive 2009 (implemented in the UK) creating a common framework for setting charges in a pan-European framework, thereby increasing consistency and harmonisation across countries.

PwC conclude that:

"the proposed changes, in principle, are likely to reduce the exposure to regulatory risk for UK airports as the overall regulatory framework moves towards a flexible licensed based approach and becomes more consistent in its application across the European landscape."[5]

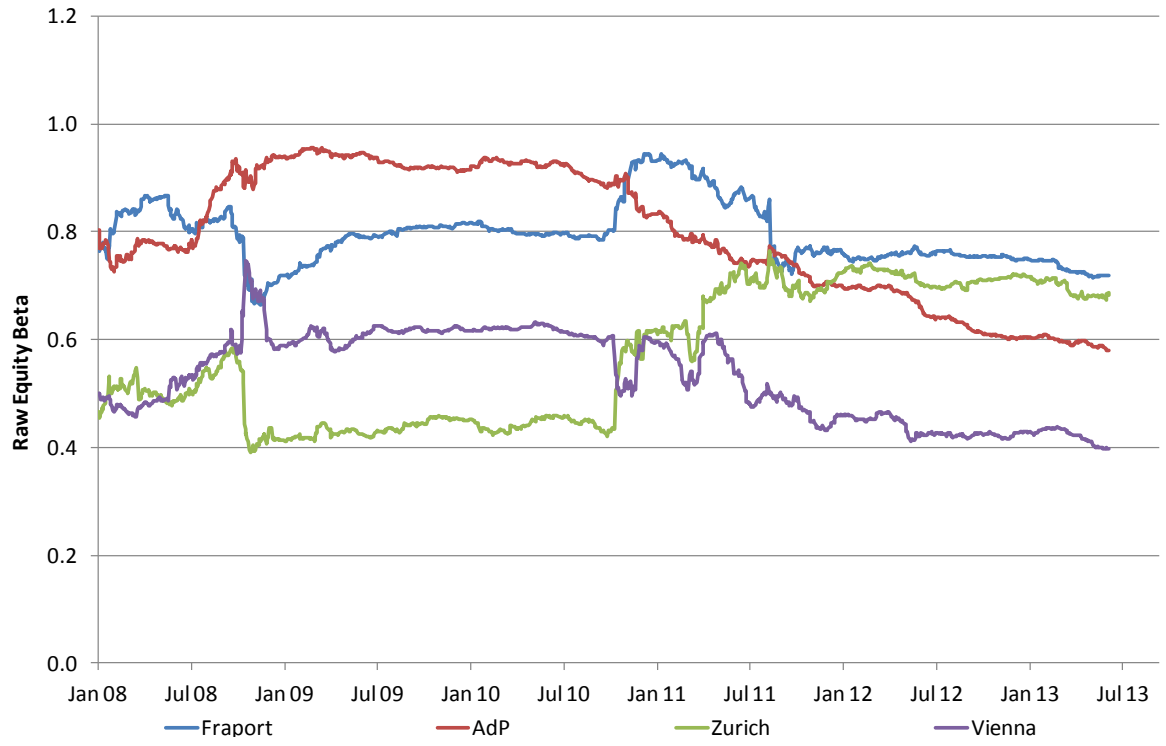
We think that this is consistent with earlier arguments around reduced risk for Heathrow and Gatwick, suggesting that a lower equity beta would be appropriate for Q6.

European comparators: Updated analysis

Since CEPA's report for British Airways in February 2013, empirical evidence suggests that betas have fallen or remained broadly stable even given the relatively limited additional data. The PwC data analysis appears to be up until the end of February 2013. Given that they suggest that figures are slightly lower at that point in time, the continuation of the downward trend would further support the judgement that the equity beta ranges in the Q6 Initial Proposals are consequently too high. We present a separate note on the appropriate point estimate setting within the range, but taking a high percentile (e.g. 80th) would further compound this problem. Figure 1.2 shows equity betas for the European comparators.

[5] PwC (2013) "Estimating the cost of capital in Q6 for Heathrow, Gatwick and Stansted: A report prepared for the Civil Aviation Authority (CAA)", at p. 77

Figure 1.2: Raw equity betas for European comparators



Source: Bloomberg

The raw equity beta for Zurich Airport has increased during this period, but Aeroports de Paris (AdP) has shown a sustained fall in its beta. As noted above and in our February 2013 paper, we think that there are reasons why Zurich Airport is not as appropriate a comparator as Fraport or AdP. The data underlying Figure 1.2 is contained within Table 1.1.

Table 1.1: European comparator betas 1yr averages

	Asset beta		Raw equity beta	
	Current report	**CEPA Report (Feb 13)**	**Current report**	**CEPA Report (Feb 13)**
Frankfurt Airport	0.396	0.404	0.756	0.756
Aeroports de Paris	0.411	0.443	0.622	0.649
Zurich Airport	0.479	0.475	0.706	0.714
Vienna Airport	0.208	0.206	0.423	0.432
Sydney Airport	0.152	0.161	0.306	0.332
Aus Infra fund	0.353	0.371	0.353	0.371
Auckland Airport	0.060	0.065	0.083	0.092

Source: Bloomberg, CEPA analysis

Note: Uses domestic daily returns data using a market capitalisation basis for gearing

In fact, analysis of AdP's corporate bonds demonstrate how low risk they are considered to be. Table 1.2 shows the current yield to maturity of the most recently issued AdP bond[6] relative to the French sovereign equivalent. In the case of their most recent 15 year bond, the spread over gilts is just 21 bps, and an earlier AdP bond with 11 years until maturity has a 32 bps spread over the French ten year bond.

Table 1.2: AdP 2028 bond relative to equivalent French gilt

Bond	Maturity	Nominal Yield to Maturity (as of 10 June 2013)
Aeroports de Paris	05/06/2028	2.86%
French Govt	25/10/2027	2.65%
Spread over gilt		*21 bps*

Source: Bloomberg

Table 1.3: AdP 2024 bond relative to equivalent French gilt

Bond	Maturity	Nominal Yield to Maturity (as of 10 June 2013)
Aeroports de Paris	11/06/2024	2.44%
French Govt	25/05/2023	2.12%
Spread over gilt		*32 bps*

Source: Bloomberg

It should also be noted that these spreads represent upper bounds given the longer tenor and upward sloping yield curves. There is a c.10 bps increase in yield as you add one year to the tenor for sovereign debt at this part of the curve, so for Table 1.3 this could reduce the spread to c.20 bps if a benchmark with the equivalent maturity was available, with the spread in Table 1.2 being even lower than this in such a case.

Having the bonds trade so closely to the equivalent gilts demonstrates how low the perception of risk at AdP must be.[7] Using conservative estimates for both the equity beta and debt premium consequently gives the airport overly generous headroom, which does not appear warranted based on this empirical evidence.

Q6 proposals for Heathrow and Gatwick

The table below looks at how aspects of the regime proposals for the two airports in Q6 compare to the previous determination.

[6] Issued in June 2013.

[7] In the UK for example, Network Rail, is a company with a full faith guarantee from the UK government and a credit rating that matches the government. Network Rail's debt trades at a spread to gilt of c.40 bps.

Table 1.4: Ratios for airports between Q5 and Q6

	Heathrow		Gatwick	
Ratio	**Q5**	**Q6**	**Q5**	**Q6**
RAB/ Capex	10.8x	22.8x	9.4x	15.3x
RAB/ Opex	10.0x	13.1x	6.4x	8.2x

Source: CAA

Note: Q5 figures relate to figures set out in Final Determination, so does not include 13/14.

As can be observed above, operational leverage is set to decrease in Q6 compared to Q5, indicative of a lower level of risk in the upcoming price control review. PwC conducted similar analysis, but this was prior to the publication of Initial Proposals and thus were observing operational leverage within the Q5 period itself rather than across periods.

For Heathrow in particular the previous two quinquennia had larger capex programmes which were over 50% more costly, given the work to be done on Terminal 5 in Q4 and Terminal 2 in Q5.

With respect to the overall level of risk, whilst operating close to full capacity at Heathrow (and to a lesser extent Gatwick) removes some of the upside potential shocks,[8] the excess demand relative to capacity would suggest that any reduction in capacity by existing airlines would be met by other existing carriers or new entrants given Heathrow's hub status. The CAA also noted that they would expect the same situation at Gatwick.

Experience of Q5

The experience of Q5 should have helped reduce the potential damage occurring from existing downside risks moving forward into Q6. In Q5, there were disruptions caused by snow in the winters of 2009 and 2010, the ash cloud from the Icelandic volcano in 2010 and the financial crisis throughout. This should have allowed the airports to learn lessons from such disruptions and increase their resilience. An example of this is given in the Civil Aviation Act, whereby following the disruptions caused by snow, Heathrow have since trebled their snow clearance fleet and quadrupled the number of staff available for snow clearance. The improved quality standards towards the end of the Q5 period support this argument further.

Standard and Poor's had assigned Heathrow an 'excellent' score in terms of risk profile, whilst Fitch said that it met the profile of assets which showed stronger resilience to the downturn than expected. Given that this was the case, greater resilience than expected may indicate that perceived risks prior to the crisis were in fact overestimated relative to actual risks and that the equity beta could be reduced to reflect this.

Further risks

We find that arguments for changes in risk may be incorrectly apportioned to systematic risk (and thus compensated for within the equity beta) when they are in fact non-systematic risks. This can occur with increased risks, namely the increase in competition in the domestic aviation sector, or decreased risks, such as the use of improved traffic forecasting methodology, as had been indicated will be used for Heathrow.

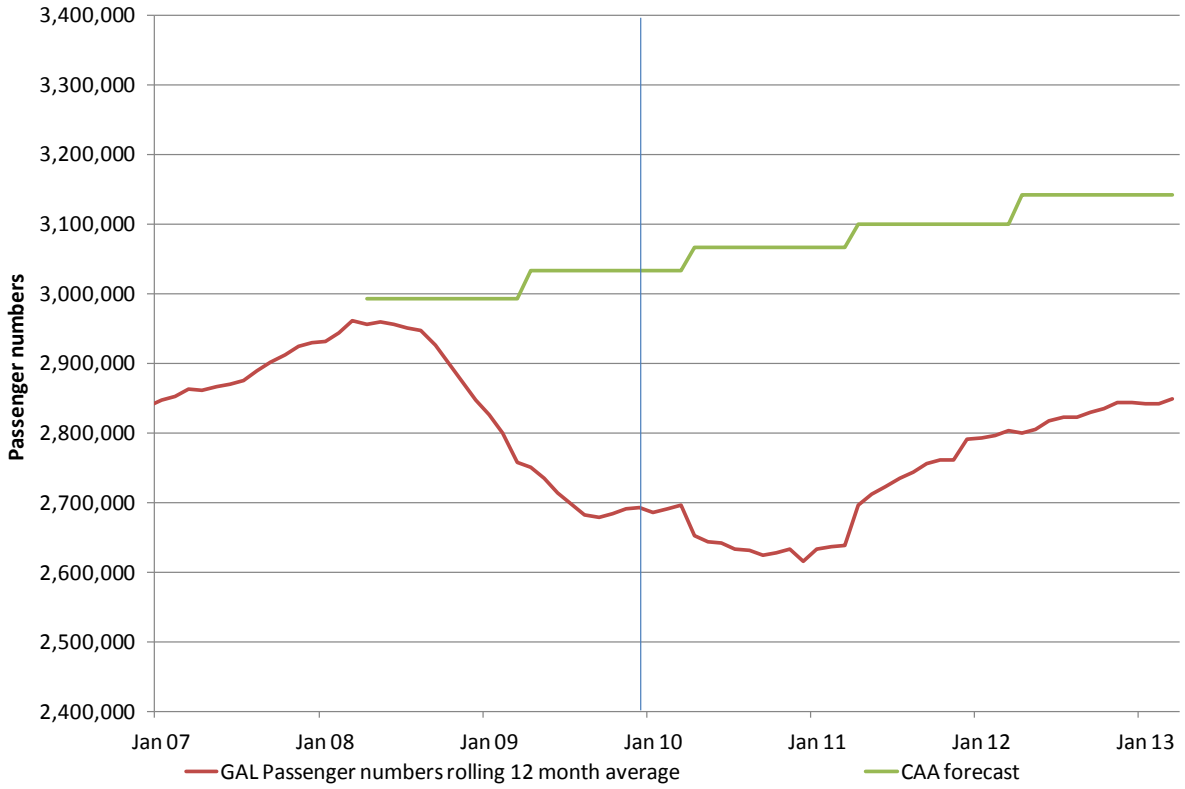
Market evidence

Equity sales at a premium to the RAB for Heathrow and for Gatwick would indicate that the cost of capital set in Q5 was at least sufficient for the airports to finance their duties. Given the nature and timing

[8] Although airlines could increase capacity through the use of larger planes and there is also the unused capacity reflected in the existing below 100% utilisation of existing seats on flights.

of the sales, the fact that there was this premium is more surprising and points towards a settlement that was too generous. The two reasons why this could be a surprise are that the Gatwick sales were driven by management prior while the Competition Commission inquiry was underway and that traffic forecasts had been significantly overestimated (by c.12%), which reduced the return available to the airports for the remainder of the Q5 period, given the fixed allowance that was in place. Figure 1.3 below shows the difference in traffic forecasts and actual traffic at Gatwick Airport, demonstrating how the sale price would likely have been even more above the RAB if the traffic figures were closer to the forecast.

Figure 1.3: Passenger numbers at Gatwick



Source: CAA, CEPA analysis

Note: the solid line shows the date of the Gatwick sale.

On the debt side, the quantum and rates obtainable on debt issuances for both airports during the financial crisis suggests that there had been no increase in risk.

On gearing, the CAA has pointed out that since the Ferrovial takeover, Heathrow has maintained a high level of gearing (82% as of September 2012) and this would not indicate a company that sees itself as facing a high level of business risk. The PwC report sets out that Heathrow's gearing is 77%, but this is still much higher than Gatwick at 58%. From our perspective this would indicate that lowering Heathrow's equity beta to reflect the difference in systematic risk to Gatwick would be appropriate. The ability of the companies to sustain a high gearing level would further suggest that both, but especially Heathrow, have not faced financeability problems with previous cost of capital allowances given by the CAA.

Conclusion

The available evidence, both quantitative and qualitative, points to lower systematic risk in Q6 relative to Q5. From a quantitative perspective, the reduced operational gearing and lower (and stable) beta estimates for both European airport comparators and UK regulated networks directly shows a decrease in

systematic risk. The flexibility of the new regulatory regime in the UK, the pan-European framework and the reduced scope of investment plans within the upcoming price control review provide qualitative support to the quantitative market evidence.

Given new evidence from relevant comparators and more clarity on the regulatory regime, our estimate of a range for the equity beta has been revised to 0.90 to 1 for both Heathrow and Gatwick. We believe the upper bound should be reduced to reflect the reduced level of systematic risk in the operating environments of these airports. Given the information available to us, the reduced risk at Heathrow suggests that an equity beta at the mid-point of this range would be appropriate and we therefore suggest an equity beta of 0.95. For Gatwick, we are still of the view that it will lie within the same range as for Heathrow but that it will be higher in this range and we suggest a point estimate of 1.0.