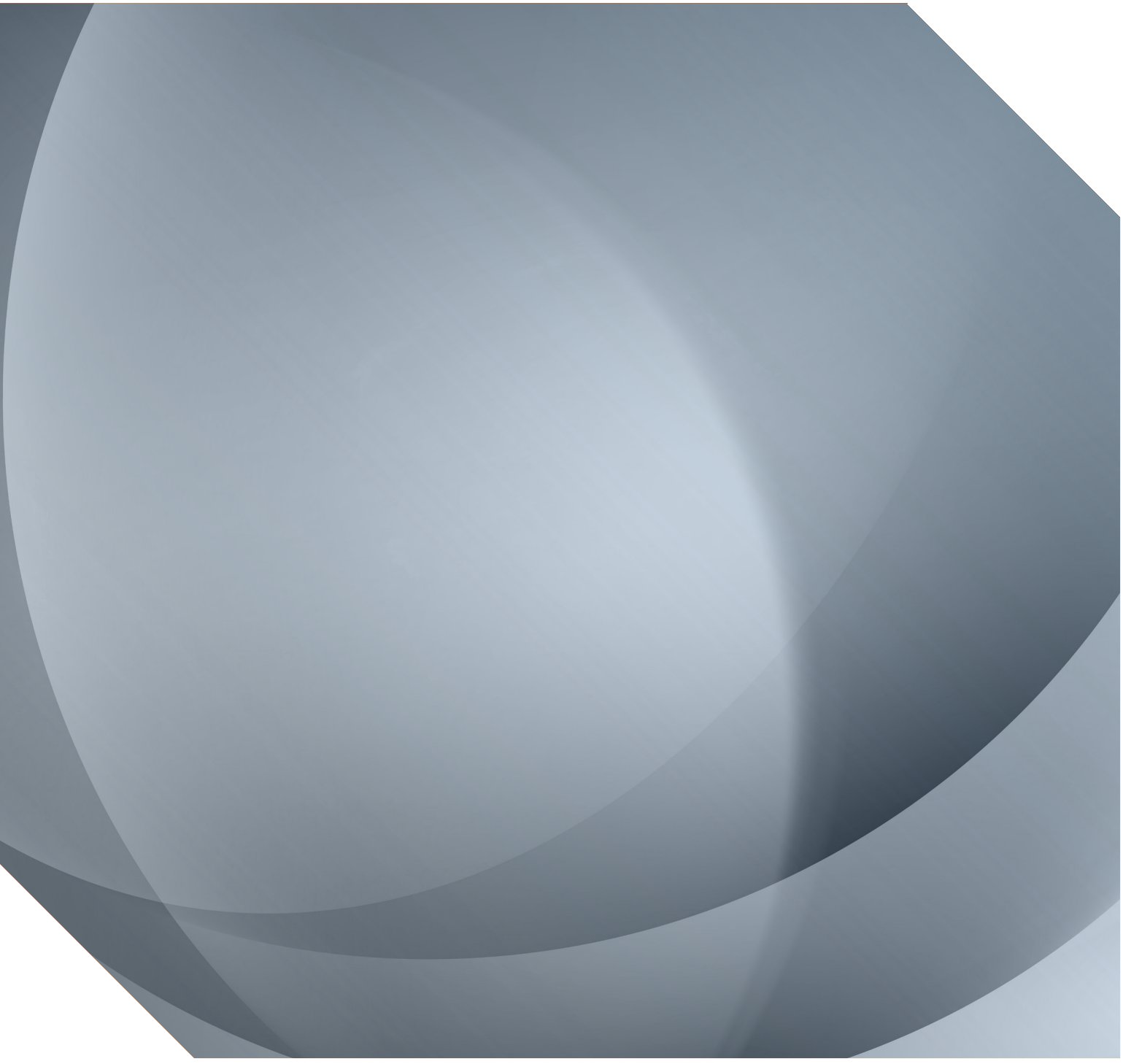
Civil Aviation Authority

Discussion paper on the regulatory treatment of issues associated with airport capacity expansion

CAP 1195



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Executive Summary

1. This discussion paper explores regulatory and financing issues associated with any runway capacity expansion at Heathrow or Gatwick airport, including how capacity expansion costs should be treated. The CAA is looking for stakeholders' views on the issues raised in this discussion paper.

2. Heathrow and Gatwick are airports that the Airports Commission (the Commission), in its interim report, recommended be given further consideration as the location for additional runway capacity. In parallel, the Commission is undertaking further feasibility studies for an Inner Thames Estuary option. In the event that an Inner Thames Estuary airport is shortlisted by the Commission, the CAA will revisit the issues raised in this document (and will set out a new timetable for this project).

3. While the Q6 documents[1] provide some information on how the CAA intends to treat some costs associated with any runway expansion in Q6, it was noted that more guidance on this would be provided. The CAA's proposed treatment of such costs (assuming the CAA's duties remain unchanged) will, however, only be relevant if Heathrow or Gatwick continue to be subject to economic regulation. For example, additional runway capacity in the south-east of England could change the competitive conditions faced by airport operators which could trigger a fresh review of the relevant markets and potentially the removal of existing economic regulation.

4. If a fresh review of the relevant markets was required, determining when this review should occur will be important. The timing of any review would be largely dependent on whether or not the CAA considered that there had been a material change in circumstances (MCC) since its last assessment, although there is scope for the CAA to undertake an assessment before a potential MCC.

[1] See, for example, CAP 1151 and CAP 1152 available at: www.caa.co.uk.

5. How an airport operator found to have substantial market power is regulated will affect how it runs it business, including how it finances large infrastructure projects such as runway expansion. It may also affect the market's appetite for any projects being proposed. The CAA has a duty to ensure that an airport operator subject to economic regulation is financially resilient. While it will be up to an airport operator to decide how best to finance its operations, at a broad level, the CAA considers that a regulated entity may have a greater ability to shift some of the risks and uncertainties of the business to passengers. Therefore, it may be able to finance a higher proportion of its balance sheet as debt relative to an unregulated business.

6. The actual or perceived risk of capacity expansion will influence the market's appetite for the project and the cost at which a project may be financed. There are also a number of different types of risk, which is unlikely to remain constant over time. As a general rule, the CAA considers that allocating risk to the party best placed to manage it is appropriate. Also, when attributing risk, it may be appropriate to ensure there is scope for a commensurate reward.

7. Regulation has an important role in managing risk by tolerating, avoiding, mitigating or transferring it. For example, the CAA could, in the event that it considered customers were best placed to manage risk, shift risk away from the airport operator to customers. Alternatively, risk could be retained by the airport operator and as a result it would be responsible for any costs incurred.

8. The CAA understands that demand risk and political risk may be two of the more significant risks faced by airport operators. Political risk, for example, could be mitigated by allocating (all or some of this) risk from the airport operator to customers. Alternatively, political risk could be reduced if the Government was (and therefore taxpayers were) willing to absorb any efficient costs that were incurred by an airport operator during the time between any Government approval and any subsequent reversal.

9. Regulatory risk (and cost risk) could also be mitigated by the CAA continuing with the regulatory approach it adopted for Q6. This would mean a regulatory asset base (RAB) based approach for Heathrow Airport Limited (HAL) and Licence Backed Commitments (LBC) for Gatwick Airport Limited (GAL). However, options adopted in the regulation of other UK and international infrastructure projects, among other alternatives, should also be considered. These case studies suggest that there may be merit in the CAA considering:

   - having/allowing different treatment for different projects being undertaken by a business, such as separate RABs or the use of special purpose vehicles (SPVs);
   - setting aspects of regulatory decisions for longer than has traditionally been seen (for example, setting the weighted cost of capital (WACC) for 20 years or more broadly having longer price controls); and
   - not allowing any Government funded capital expenditure (capex) to be added to a RAB or setting a lower WACC, and other treatments of Government assistance.

10. While adopting a RAB-based approach may be relatively straightforward for HAL (recognising that a number of issues would still need to be addressed), adopting a RAB-based approach for any new capacity at Gatwick may be more problematic, particularly if the current LBC approach is retained for the rest of GAL's operation. Indeed, the ability to operate a RAB and a LBC approach in parallel at one airport posses a number of challenges.

11. As it may be years, even a decade, between an airport operator incurring significant runway expansion costs and the new capacity being used, inter-generational issues need to be considered. The Civil Aviation Act 2012 (the Act) gives the CAA a considerable degree of flexibility with respect to this.

12. The airports regulatory system has, in the past, pre-funded capex programs, with expenditure being included in the RAB in the year it is incurred (even if the asset is not yet in service). However, there are other approaches that could be used. For example, the CAA could adopt an 'assets in operation' approach, which would mean that expenditure would only be added to the RAB when in operation. This

is a much more of a user pays approach. Alternatively, the CAA could look to adjust the time profile of the airport operator's revenue – this could allow some of the costs to be more evenly spread across time periods.

13. A key consideration in determining what approach to adopt will be the CAA's view as to which generation should bear the greater burden. Such an assessment could be facilitated by net present value analysis, noting that Department for Transport forecasts suggest that there will be a strong demand for airport services though to 2050.

14. The CAA also needs to consider if there could be appropriate mechanisms by which in the event of pre-funding, those that pay can obtain some future benefit or return.

15. Given the various stakeholders involved in airport expansion, the process by which the cost and efficiency of any expansion project is reviewed by stakeholders will need to be assessed. The CAA considers that there are four options by which this could be done:

- Option 1: no review of airport operator plans and automatic pass through of costs (as both the Commission and the Government will have reviewed the proposal being taken forward);
- Option 2: ex ante high level review of airport operator plans;
- Option 3: ex ante detailed review of airport operator plans; or
- Option 4: ex post review to determine the efficient level of capex that should be allowed to be added to the RAB.

16. Importantly, the CAA considers that there is an important role for Constructive Engagement (CE) in helping to inform the scope and size of any expansion project. In other words, the proposal that is ultimately approved should reflect the outcomes agreed and the discussions held between airlines and the relevant airport operator. The CAA considers that if this has not formed part of the planning to-date then there may be merit in the airlines/Commission and/or Government looking to ensure that a similar approach is adopted. In the event that the CAA must examine the efficiency of a proposal, it considers that looking for evidence of CE could form an important part of this.

17. The CAA has identified some principles and triggers that could be used in the recovery of efficient runway expansion costs. In addition, building on the recovery of costs allowed in the Q6 documents, the CAA has identified options regarding how costs incurred before there is sufficient certainty as to where any new capacity will be located could be recovered:

- Option 1: only allowing a pass through of a certain level of costs (e.g. £10 million) each year (as is currently the case for GAL), with a requirement for CE for amounts greater than the set level;
- Option 2 (a): setting a cap, that is linked to agreed timings, on the efficient costs associated with specific projects that could be added to a RAB;
- Option 2 (b): setting a cap (potentially greater than that outlined in any current licence) on the efficient costs associated with specific projects that could be added to a RAB;
- Option 3: only allowing the amount outlined in a licence to be passed through, with any other efficient costs to be recouped in later time periods by being added to a RAB;
- Option 4: For GAL, only allowing the costs outlined in the relevant licence to be recovered in Q6, with all other costs to be carried by a special purpose vehicle (SPV) OR, for HAL, only allowing it to recover a set amount in Q6, with all other costs to be carried by an SPV; and
- Option 5: HAL buying Heathrow Hub Limited's runway capacity design concept and the CAA allowing all/some/none of those costs to be recovered.

18. There are also options around when and the extent to which Government could absorb any efficient costs incurred should approval for a new runway be reversed. Potential trigger options for the absorption of these costs could be at the point of:

- the granting of planning permission for the capacity expansion;
- the commencement of building/excavation work at the airport; or
- another date, as determined by the Government.

19. The Commission has discussed potential changes to the European slot allocation process and that changes to these could be beneficial. The CAA agrees that changes in this area could be beneficial with respect to airlines' potential willingness to pre-fund any expansion. While there is scope for these rules to be changed prior to the new capacity becomes operational, European lawmaking is a lengthy and often difficult process, and there is no guarantee that this will be enacted.

20. The Act, which places the consumer at the heart of the CAA's decisions, allows the CAA great flexibility to pursue its duties. For example, the CAA has been able to apply quite different regulatory approaches to HAL and GAL for Q6. While the CAA considers that the Act is capable of dealing with issues associated with runway capacity development, it is bound by its duties which do not include a specific duty to facilitate any new capacity expansion.

CHAPTER 1

Introduction

Background

1.1 Heathrow and Gatwick airports are currently subject to economic regulation by the CAA and have been identified as possible locations for extra runways in the south-east of England in the Airport Commission's (the Commission) interim report.

1.2 This paper aims to start a discussion on regulatory and financial issues associated with any expansion of capacity at Heathrow or Gatwick airports. In particular, it examines regulatory and financial issues associated with three of the four options highlighted by the Commission:

- a runway at Heathrow, north west of the existing airport (H3), proposed by Heathrow Airport Limited (HAL);
- a westward extension of the northern runway (HH) at Heathrow, proposed by Heathrow Hub Limited; and
- a second runway at Gatwick (G2), to the south of the existing airport, proposed by Gatwick Airport Limited (GAL).

1.3 The CAA is seeking stakeholders' views on the issues it has raised, and any other issues that there may be, and will be developing its final position on these issues at a later stage. For the sake of clarity, the views expressed in this discussion paper do not represent the CAA's final position and it is seeking stakeholder's views on these issues to inform its thinking.

1.4 Importantly, this paper does not consider the regulatory treatment of the fourth option identified by the Commission – an Inner Thames Estuary option – as:

- the Commission is undertaking further feasibility studies and has not currently shortlisted this proposal;
- it is not at an airport which the CAA currently regulates; and

- it is not clear how it would affect the regulation of the existing airports, or whether it would require regulation itself.

1.5 In the event that an Inner Thames Estuary option is shortlisted by the Commission, the CAA will revisit the timetable for this project, with the view of providing views on the possible regulatory approach (if required) for that airport.

1.6 While the Commission is still assessing options on the appropriate location of any new airport capacity for the Government, consideration of the regulatory and financial issues associated with any runway expansion is important as:

- the projected costs for the options being considered by the Commission are likely to substantially exceed the regulatory asset base (RAB) of HAL and that previously calculated for GAL. The appropriateness of the current regulatory framework in managing these significant costs therefore needs to be considered;[2]
- there is scope for some runway expansion costs to be incurred in Q6 and these will have to be appropriately managed. Connected with this, the CAA has previously indicated that it would provide greater clarity on how it would manage any costs incurred by airport operator associated with runway expansion; and
- there is often long lead times associated with large infrastructure projects and greater certainty as to how the CAA will manage the costs associated with any runway expansion may be useful for the financial markets and potential investors.

1.7 The Civil Aviation Act 2012 (the Act) has also led to some evolution in how the CAA regulates airport operators. In particular, in the event that the competitive conditions change as a result of capacity expansion and new market power assessments are undertaken, further changes to the regulatory framework for the affected airport operators may need to be considered, including the possibility of economic regulation no longer being required.

[2] For each of the options identified by the Commission, costs will be incurred for the actual construction of any runway, new terminal buildings or extensions to existing terminals, land purchases, compensation for additional noise and surface access costs.

1.8 Importantly, as this is a discussion document, the CAA is not intending to:

- reach conclusions on the issues it raises;
- commit itself to follow a particular policy on these issues; or
- outline what it considers are the efficient costs associated with any new capacity – the costs outlined in this document have been taken from publicly available information submitted by the various proponents.

Statutory duties of the CAA

1.9 In considering these regulatory and financial issues, the CAA will have to consider its statutory duties as outlined in the Act – the most relevant of which are outlined below.

S1	CAA's general duty	
(1)	The CAA must carry out its functions...in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services.	
(2)	The CAA must do so, where appropriate, by carrying out the functions in a manner which it considers will promote competition in the provision of airport operation services.	
(3)	In performing its duties under subsections (1) and (2) the CAA must have regard to:	
	(a)	the need to secure that each holder of a licence...is able to finance its provision of airport operation services in the area for which the licence is granted,
	(b)	the need to secure that all reasonable demands for airport operation services are met,
	(c)	the need to promote economy and efficiency on the part of each holder of a licence...in its provision of airport operation services at the airport to which the licence relates,
	(d)	the need to secure that each holder of a licence...is able to take reasonable measures to reduce, control or mitigate the adverse environmental effects of the airport to which the licence relates, facilities used or intended to be used in connection with that airport…and aircraft using that airport,
	(e)	any guidance issued to the CAA by the Secretary of State...,
	(f)	any international obligation of the United Kingdom notified to the CAA by the Secretary of State..., and
	(g)	the principles in subsection (4).

(4)	Those principles are that –	
	(a)	regulatory activities should be carried out in a way which is transparent, accountable, proportionate and consistent, and
	(b)	regulatory activities should be targeted only at cases in which action is needed.

S104	Regulatory burdens
	The CAA also has a duty not to impose or maintain unnecessary burdens while performing its regulatory functions under Chapter 1 of Part 1 of the Act.

Source: The Act

An integrated approach

1.10 The CAA recognises that economic regulation of any new runway capacity is one of the many issues (others include safety, environmental and noise) that it will need to consider if the Government agrees that capacity expansion can proceed.

1.11 In determining the appropriate form of economic regulation, the CAA will need to be aware, at minimum, of these other issues. The CAA's work on economic regulation will need to take into account the wider context that the CAA needs to operate in, including with respect to it delivering its strategic objectives. The CAA should deliver choice and value to UK aviation consumers while ensuring that aviation's local and global environmental challenges are met.

1.12 The CAA therefore aims to develop an integrated program of work with various issues taken into account in different times. This can be challenging.

Requirement for additional airport capacity

1.13 As noted, the Commission has released an interim report concerning the provision of additional airport capacity.[3] This is the most recent report that has considered this issue. The Commission considers expansion is necessary as it identified six effects of capacity constraints:

[3] Airports Commission: interim report, available at: https://www.gov.uk/government/publications/airports-commission-interim-report (accessed 23 May 2014).

- **Resilience and delays**. The Commission considered that, in the immediate term, the most significant effect of operating at the limits of available capacity was reduced airport resilience, which could result in more regular and substantial delays for passengers.
- **Costs of travel**. The Commission considered that capacity constraints could also affect the fares that passengers pay for travel. In any market, prices would be higher when demand outstrips supply. In the aviation market, if the supply of available seats was limited, whether that be through constraints on airline or airport capacity, the price paid, either by the passenger through air fares or the airline through airport charges, would be higher. With Heathrow's runways full, and other UK airports, particularly in London and the south-east of England, forecast to fill up over the coming decades, this would imply that there was potential for prices to rise as capacity constraints bite.
- **International connectivity**. The Commission considered that there was some validity in the argument that capacity constraints faced by Heathrow were significantly affecting the UK's level of international connectivity, and that other countries, whose hub airports are less constrained, were rapidly catching up with or overtaking the UK.
- **Domestic connectivity to London**. The Commission noted that the number of domestic destinations served from Heathrow has been steadily declining over a number of years. The Commission's analysis predicts that the number of regional UK destinations served from Heathrow could decline from around 20 in 1990 to four by 2040.
- **The UK's hub status**. The strength of Heathrow's route network is underpinned by the airport's transfer passengers, who account for around a third of the airport's overall passenger numbers. The Commission's forecasts suggest that if capacity constraints at Heathrow are not alleviated, the number of transfer passengers at the airport will first stagnate and then decline. This sees transfer passengers drop from 22.6 million in 2011 to less than 4 million in 2050, and the number of destinations served from the airport fall by roughly 20% over the same period.

- **Impact on the economy**. The Commission's analysis of the wider economic impacts of capacity constraints on Gross Domestic Product is estimated to be £30 billion to £45 billion between 2021 and 2080. On this basis, the Commission considers that there is a rational economic case for taking action to address capacity constraints.

Structure of this paper

1.14 The rest of this paper is structured as follows:

- **Chapter 2: Regulation, competition and market power**. This chapter examines the role of economic regulation and the statutory remit of the CAA. It also considers how market power may change with additional capacity.
- **Chapter 3: Airport expansion and market power determinations**. This chapter considers the timing of any potential new market power assessment, explains a material change in circumstances (MCC) and the CAA's option of making a market power determination (MPD) in advance of an MCC.
- **Chapter 4: Risk, regulation and finance**. This chapter examines issues associated with risk, regulation and the financing of any capacity expansion. In particular, it considers risk and the CAA's duties, managing risks and the CAA's potential regulatory approach. This chapter also considers other relevant issues, including the appropriate length of any regulatory control period and how the CAA may wish to consider any Government financial assistance.
- **Chapter 5: Inter-generational issues**. This chapter examines why inter-generational issues arise, particularly in the financing of large expansions of airport capacity. It also examines the most recent approach adopted and highlights alternatives.
- **Chapter 6: High level options for the recovery of costs**. This chapter examines the broad approach the CAA could look to apply when examining the costs associated with any additional capacity expansion. In doing so, it considers the benefits and drawbacks with each those options.

- **Chapter 7: Cost recovery – principles and in practice.** This chapter discusses options by which costs incurred pre any certainty could be recovered. It also considers alternative approaches, including at adopted in other UK and international infrastructure projects.
- **Chapter 8: Slot allocation**. This chapter describes the European Union legislation governing the allocation of new slots when the additional capacity comes into operation.
- **Chapter 9: The CAA's statutory duties**. This chapter considers a number of issues that are currently included in the CAA's statutory duties – the passenger interest, the role of competition and the CAA's financing duty.
- **Chapter 10: Questions raised in this discussion paper**. This chapter lists all the questions raised in earlier chapters.

1.15 There are five appendices:

- Appendix A: Magnitude of forecast costs.
- Appendix B: Case studies.
- Appendix C: The CAA's Q5 Regulatory Policy Statement on the project for the sustainable development of Heathrow (PSDH) costs.
- Appendix D: Assessment of risk of capacity expansion between key stakeholder groups.
- Appendix E: Abbreviations.

Submissions

1.16 If you have any views, ideas or questions on the issues outlined in this discussion paper please email them to airportregulation@caa.co.uk. All submissions must be received by no later than 10 July 2014.

1.17 The CAA will publish submissions on its website shortly after the close of the consultation period. If there are parts of your submission that you consider commercially confidential, please mark them clearly as such. Please note that the CAA has powers and duties with respect to information disclosure that can be found in section 59 of, and Schedule 6 to, the Act and in the Freedom of Information Act 2000.

1.18 If you would like to discuss any aspect of this discussion document, please contact Stephen Gifford (stephen.gifford@caa.co.uk) or Ian McNicol (ian.mcnicol@caa.co.uk).

Next steps

1.19 Following the release of this discussion paper, the CAA will develop a draft policy statement for consultation in Autumn 2014 and a policy statement by the end of the year.

CHAPTER 2

Regulation, competition and market power

Introduction

2.1 This chapter examines a number of competition and market power issues associated with any new runway capacity in the south-east of England. In particular, it examines:

- the role of economic regulation;
- the statutory remit of the CAA; and
- how market power may change as a result of any new additional capacity.

The role of economic regulation[4]

2.2 Where markets do not work effectively and where there is persistent substantial market power (SMP), and the benefits of regulation outweigh its adverse effects, there can be an important role for regulation. During its recent quinquennium review, the CAA judged that HAL and GAL, airport operators in the south-east of England, had SMP and that economic regulation was required.

2.3 The CAA considers that the role of effective economic regulation is to further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services, which will be achieved through (among other factors) by:

- delivering, as far as possible, an outcome that broadly approximates to that of a competitive market in the long-run;[5]
- ensuring consumers' interests are promoted through the efficient provision of good quality, reliable and sustainable services;

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4 BIS, Principles for Economic Regulation, April 2011, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31623/11-795-principles-for-economic-regulation.pdf (accessed 21 May 2014).

5 BIS, Principles for Economic Regulation, April 2011, paragraph 2.3.

- creating regulatory frameworks that avoid adding undue uncertainty and risk to the business environment, as this could increase the costs of investment which would be to the detriment of users of air transport services; and
- being a critical enabler of infrastructure investment.[6] Efficient investment in-turn plays an important role in promoting the long-term interests of consumers (users) – a particularly important issue given the significant investment that will be required for any capacity expansion.

2.4 Effective economic regulation also enables infrastructure investment by building a stable and transparent regulatory environment. In addition, a history of consistent regulatory decisions, aligned in a clear way to defined statutory goals, helps create an expectation that a narrow set of outcomes will follow a given set of circumstances. This helps investors and consumers predict regulatory decisions.

Statutory remit of the CAA

2.5 Under the Act, the CAA's primary duty is to further the interests of users (passengers and owners of air freight) regarding the range, availability, continuity, cost and quality of airport operation services; where appropriate, by promoting competition. There is also a range of regulatory objectives and principles that the CAA must consider, including the need to be transparent, accountable, proportionate and consistent, and to target only those cases where action is needed. The CAA also has a duty not to impose or maintain unnecessary burdens.

2.6 In assessing users' interests, the CAA must balance the interests of present users in lower airport charges with the interests of future users in the relevant airport operator's ability to continue to be able to invest in modern infrastructure and services in a timely manner. (Of course, present and future users will often be the same people.) Where there is a conflict between the interests of different classes of users or between their interests, the CAA is directed to carry out its functions in a way that will further such interests as it thinks best.

[6] BIS, Principles for Economic Regulation, April 2011, paragraph 25.

2.7 Importantly, the Act only enables the CAA to directly influence airport operators that have SMP and where regulatory intervention is warranted. Where this is not the case, the CAA will not intervene. The Act also grants the CAA powers to enforce competition law by enabling it to exercise powers concurrently held with the Competition and Markets Authority (CMA). These powers include the enforcement of competition law in relation to the provision of airport operation services sector and the ability to undertake market studies and make market investigation references to the CMA in relation to the provision of airport operation services.[7]

2.8 The Act has also been designed so that it does not preclude the development of competition at airports – for example, in the form of competition between terminals – in the future.[8]

Additional capacity and market power

2.9 Market power is the ability to sustain prices above the competitive level profitably, or to restrict output or quality below competitive levels. As explained in the CAA's Guidelines, a market power assessment involves an assessment of the competitive constraints faced by an airport operator, regardless of whether they arise from within or outside the relevant market(s). Such analysis helps to determine whether the relevant market(s) is/are subject to effective competition or not over a specified period.[10] Importantly, the ability for the CAA to do this will be influenced by the level of industry engagement on the actual and potential behaviour and operation of the relevant airport

7 Source: http://www.legislation.gov.uk/ukpga/2012/19/notes/division/2/1#f00001 (accessed 23 April 2014).

8 Draft Civil Aviation Bill: An effective regulatory framework for UK aviation, Volume 1: Policy Paper, p.12.

10 The Guidelines form an important part of how the CAA will undertake a competition assessment. While the Guidelines were developed following extensive interactions and consultations, the CAA's recent experience with its market power assessment for HAL, GAL and Stansted Airport Limited suggest that these may need some refinement to reflect the practical experience associated with undertaking a market power assessment.

operator(s).

2.10 With new capacity in the south-east of England, the competitive conditions faced by the airports in the south-east of England may change. The CAA's 2014 findings of SMP for HAL and GAL may therefore need a fresh review.

2.11 While there is scope to hypothesise how competitive constraints may change, and how an airport operator may behave in response to new capacity, the CAA considers that there are too many uncertainties associated with doing this at this stage. For example, it remains unclear in the event that a new runway was developed, how any new capacity would be released – gradually, over time or all at once? In addition, providing the CAA view at this time, without any clear basis, may have implications for any potential financing of any project. The timing of any CAA assessment is discussed in more detail in chapter 3.

2.12 However, when considering how competitive constraints may change, and how an airport operator would behave with any new capacity, the CAA would need to consider a number of different factors, including (but not limited to):

- the level of demand for the new capacity, including from airlines currently operating at the airport and from other airlines;
- switching costs, capacity constraints and the allocation and costs of slots;
- the ability of an airport operator to leverage whatever level of market power it may have going forward, perhaps due to what if offers in term of demand and surface access;
- how the buying power of airlines may change with any new capacity; and
- the level of engagement between airport operators and airlines with respect to price, capital expenditure (capex) and potential airline incentives.

2.13 In considering the implications of the additional capacity for market power, the CAA will also have to consider other factors besides airport capacity. For example, the location of airports and provisions for surface access are also important in determining the level of market power an airport operator may have. To inform this, the CAA may need to consider the outcome of any critical loss analysis.

Critical loss analysis

2.14 Critical loss analysis examines the level of passenger demand reduction and flight/aircraft withdrawal by airlines that would be required for an airport charge increase to be unprofitable for the airport operator. If demand switching is such that an airport operator would not find such a price increase to be profitable, then this can be an indication that an airport operator does not have SMP.

2.15 While the CAA would need to consider what an appropriate starting point would be for an airport operator, it is possible to simulate the effect on demand of increased airport costs, by using, for example, the Department of Transport's (DfT) forecasting model which looked to examine the effect of an increase in the airport passenger duty. The CAA used this model to inform the MPDs of Stansted Airport Limited (STAL) and GAL.[11]

2.16 Key findings from DfT's modelling was that:

- large price changes have a relatively small impact on total [UK] passenger demand. A key reason for this is that while these price changes may be large in terms of the percentage increase in airport charges, they are small in terms of the total cost of a flight (including fare, cost of travelling to the airport etc.).

[11] There are also other estimates with different results, depending on assumptions made. However, the CAA focused on this as this was the most developed model used for UK traffic forecasts and was used to evaluate UK airport capacity scenarios. However, the CAA recognises that the Commission has proposed a number of modifications to this model to allow passengers to choose not to fly, rather than choose to fly from another airport. The CAA may need to consider the effects of these proposed changes in any additional analysis it may undertake.

- large price changes at airports can lead to passenger reallocation but marginal changes only have more limited impacts. There are two key reasons for this: small price changes are insufficient to either overcome the additional travel costs, or override a passenger's preference for greater service frequency. This second point is particularly important when considering the potential impact of price changes at Heathrow. In the model, passengers are prepared to accept higher prices to a certain extent in order to travel from airports that offer them greater frequency and connectivity benefits.
- price increases at Heathrow and Gatwick may only result in a shift of passengers to other airports in close proximity. As passengers would still prefer to travel from the same area to minimise any additional travel cost, suppliers would look to satisfy this demand by switching services to other airports nearby who are unaffected by the price increases and have the necessary spare capacity.

2.17 Assuming that the cost of a new runway translated into a large increase in airport charges, DfT's model suggests:

- even with a large increase in costs, such a change may be small in terms of the total cost of a flight (including fare, cost of travelling to the airport etc.) and may not change passenger's preferences;
- passengers, particularly at Heathrow (given its hub status), may be prepared to accept higher prices if the airport offers greater frequency and connectivity benefits; and
- a large price increase at Heathrow or Gatwick may result in a shift of passengers to the other airport given their proximity.

2.18 These outcomes, while useful, suggest that critical loss analysis may not provide a definitive answer as to how market power may change as a result of any new runway capacity. This also suggests that any assessment based solely on critical loss analysis prior to any new runway being operational would be difficult.

Terminal competition

2.19 In the UK, there is currently no example of different parties operating terminals (or runways) at the same airport. Prior to the Act, it was unclear whether such arrangements would have been possible. However, the Act removed this uncertainty and terminal competition is now a possibility. Indeed, with more runway capacity (and with the Act), it could be argued that increased capacity could increase the prospects of terminal competition. Should such a situation result, the CAA would need to consider its implications. Some of the issues that the CAA would need to consider include:

- the market power of the existing airport operator, including any changes to critical loss analysis and how it may change going forward;
- the competitive position of other airports now and going forward;
- the CAA's duty to ensure that licensed operators can finance their activities; and
- the framework of economic regulation at the airport. For example, whether the new terminal operator required a RAB for the terminal, and how, if at all, the use of the common assets, such as surface access or runways, might be regulated.

Questions	
Q2.1	Do you consider that new runway capacity in the south-east of England would change the competitive conditions in the south-east of England? If so, what are the likely changes in those conditions? Would this be affected if any new capacity was released in a staged manner?
Q2.2	What do you consider are the implications for economic regulation if an existing airport operator faces terminal competition? What factors (if any) would need to be re-considered?

CHAPTER 3

Airport expansion and market power determinations

Introduction

3.1 This chapter examines the procedural issues which the CAA may need to address in the event that there is airport capacity expansion in the south-east of England.

Timing of any new market power assessment

3.2 Any decision made by the CAA on the market power held by an airport operator will have a significant effect on the regulatory approach applied at an airport and therefore how a particular airport operator will operate.

3.3 At this time, there is a lack of certainty about where any new runway capacity will be located and what affect this may have on competitive conditions faced by an airport operator. Despite this, the CAA considers it is appropriate to outline what the Act currently permits it to do with respect to the timing of any market power assessment.

3.4 According to section 7(1) of the Act, the CAA may make a MPD that the market power test – the test that must be passed for a finding of SMP – is or is not met whenever it considers it appropriate to do so. However, according to section 7(2) of the Act, the CAA must make a market power determination (MPD) in respect of an airport area if:

- it is asked to do so by the operator of the airport area or any other person whose interests are likely to be materially affected by the determination;
- the area is located at an airport that handles more than 5 million passengers a year at the time the request is made; and
- the area consists of or includes all or part of the core area of the airport.

3.5 Importantly, section 7(2) of the Act does not apply if:

- the CAA has previously made an MPD in respect of the airport area (or an area that includes all of the airport area); and
- it considers that there has not been a material change of circumstances (MCC) since that determination.

3.6 In addition, where the CAA is considering exercising its discretion to make an MPD under section 7(1) of the Act, it is likely that the CAA would look at whether there had been an MCC since its last determination.

3.7 Determining whether or not an MCC has occurred, and therefore how competitive conditions faced by an airport operator may have changed, would be an important decision for the CAA. The following are some (capacity expansion related) events that could, at first glance, suggest an MCC may have occurred:

- there is a major change in government policy with respect to airport expansion;[12]
- the Government determines that new capacity can be built at a certain airport or airports;
- an airport operator confirms (post Government approval) that it will proceed with the development of new capacity;
- planning permission for any new capacity is approved;
- the ground is broken for the new capacity;
- the first commercial deal concerning the use of the new capacity is agreed;
- the new capacity is complete; or
- the new capacity is first used for a commercial flight.

[12] For example, in 2009, the Competition Commission regarded the change in government (opposition to expansion of runway capacity in the south-east of England) as an MCC for the purposes of section 138(3) of the Act, requiring it to give fresh consideration to the question whether BAA should be required to divest itself of Stansted.

3.8 While the CAA does not want to fetter its discretion, with all other things being constant, it considers that competitive conditions faced by an airport operator are unlikely to change until at least planning permission for any new capacity was approved. At this stage, the CAA considers that there will be sufficient certainty as to the location and the scope of the new capacity. This knowledge may then be reflected in commercial discussions between airlines and airport operators.

Making an MPD in advance of an MCC

3.9 The Act allows the CAA to anticipate how a relevant market may be affected by changes in circumstances, which as highlighted above, could include the development of new runway capacity. In particular, section 12 of the Act states that the CAA may make an MPD based entirely or partly on circumstances that have not arisen at the time the MPD is made. For example, it may make an MPD on the expectation that a particular airport will build new capacity within a specific window.

3.10 There are, however, a number of risks and benefits associated with undertaking an MPD in advance of an MCC and these are explored below.

Possible benefits associated with making an MPD in advance of an MCC

3.11 Benefits associated with undertaking an MPD in advance of a potential MCC include providing:

- potential investors with greater clarity as to whether or not economic regulation will be applied to the operator of the new capacity, which may reduce overall project uncertainty and the (perceived and/or actual) risk associated with the project;
- the relevant airport operator with greater certainty. This could reduce costs and allow the airport operator to start developing strategies (including airline consultation strategies) it considers best to take forward its business. This could also allow the airport operator to be aware of issues the CAA considers to be particularly important and areas it may focus on going forward;
- other airport operator(s) with greater certainty as to how the relevant airport operator will be treated, which will allow them to start developing strategies they consider best to take forward their businesses; and

- airlines with greater certainty. This can reduce costs and allow the airlines to start developing strategies for how they will take forward their businesses, including with respect to the operator of the additional capacity. Similar to the above, it could allow the airlines to be aware of issues the CAA considers to be particularly important and areas it may focus on going forward.

3.12 Taken together, these benefits may help ensure that the interests of users of air transport services are served with respect to the range, availability, continuity, cost and quality of airport operation services.

3.13 Importantly, the ability of the CAA to effectively undertake an MPD in advance of a potential MCC will be dependent on what information it has available to it, including any analysis that airport operators and airlines may have undertaken, and the time of any market power assessment.

3.14 As such, when the level of uncertainty associated with any new runway capacity has been reduced, there may be an increased likelihood that the CAA will consider completing an MPD in advance of a potential MCC (although this should not imply that it will).

Risks associated with making an MPD in advance of an MCC

3.15 There are a number of risks associated with making an MPD in advance of a potential MCC, not least that for the CAA's assessment to hold all the future circumstances anticipated by the CAA must come to pass. The failure for any of these expected circumstances to materialise would render the CAA's MPD assessment ineffective.[13]

3.16 A possible risk of the CAA using section 12 of the Act is therefore that significant CAA and industry resources (and time) could be spent in undertaking an MPD in advance of a possible MCC without any usable outcome. Indeed, a possible outcome could be that the CAA and industry complete the resource intensive process associated with an MPD only to find that circumstances are different from that anticipated and that a new MPD is required.[14]

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13 See, in particular, section 12 (2), 12 (3), 12 (4) and 12 (5) of the Act.

14 While the time taken to complete a new MPD may be shortened due to previous work, it will take some time and resources to ensure that all relevant issues are considered.

3.17 The risk associated with undertaking an MPD in advance of a potential MCC could therefore add to the overall level of risk to the project and therefore the costs that the CAA, the industry and passengers would be exposed to.

3.18 Based on the above, and without wanting to fetter its discretion, the CAA considers that the risks (and therefore the costs, including reputational) associated with undertaking an MPD in advance of an MCC will be greater the earlier in advance it is done.

An alternative option

3.19 While the CAA has highlighted a number of the potential benefits and risks associated with undertaking an MPD in advance of an MCC, there may be scope for the CAA not to go as far as undertaking an MPD in advance of an MCC but still publish information that may be useful for stakeholders (creating certainty and/or reducing risks/costs).

3.20 Some materials that the CAA could look to publish (with some certainty) include:

- information on the state of the aviation market. For example, the CAA could look to publish information on new developments in the sector, CAA competition related activities and/or market indicators.
- any information that the CAA may have collected which may be outlined in various licences. For example, in the event that a new runway was to be built at Gatwick, the CAA may want to consider the outcomes of the annual reviews of price and quality as well as the outcome of the 2016 review[15];
- how it expects airlines and airport operators to constructively engage with each other, especially on issues such as capex and operational expenditure (opex);
- scenario analysis, which could highlight how competitive conditions may change with any new capacity. However, as highlighted earlier, this could be highly speculative;
- catchment area analysis;

[15] The CAA intends to undertake a review of the Licence Backed Commitments for Gatwick in the second half of 2016.

- passenger demand. However, as DfT already undertakes such analysis it may not be in the best interests of users for the CAA to duplicate this work; and
- information on how it considers an airport operator has been engaging with its airlines, be it on price, airline incentives, capex or other. While such evidence on this was used to inform recent market power assessments, the regulatory period under consideration did not cover a period where additional new runway capacity was expected. The usefulness of such an assessment, before any significant new capacity being available could therefore be of limited use.

3.21 The CAA could, in theory, look to publish such information sooner rather than later. However, as the CAA has only recently completed a number of MPDs,[16] it is unlikely that there would be much additional benefit undertaking such an exercise at this time. In addition, the licences that the CAA has issued on HAL and GAL are quite new, and it will take some time for many aspects of these to settle down. Undertaking an assessment of these issues before the new licences are fully embedded may therefore have limited benefit.

3.22 The CAA may also need to consider the reputational risks associated with issuing such information. In particular, the CAA may be exposed to more risks where there is a high level of uncertainty with the information it could provide.

3.23 The CAA could also publish information on a range of other issues but, relative to the list above, these may have much less certainty, particularly as it might take some time for new information to be available. For example, the CAA could consider the merit of publishing information on:

- historic market shares, although the usefulness of this may be limited as any new capacity would have a significant effect on any market share calculations;

[16] The CAA published MPDs on HAL (for air operation services), GAL (for air operation services) and STAL (for passenger related air operation services) on 10 January 2014.

- airport operator strategy on issues such as price and negotiations. While the CAA recognises that issues of confidentiality may limit such material being published, this information may be useful, even at a high level. In addition, trying to determine how an airport operator would conduct its business after any runway expansion may be quite difficult – as per an earlier point, this would be highly speculative unless an airport operator has developed and shared this information, and does not change it as more information comes to light; and/or
- critical loss analysis. As capacity will have changed, prices and profit levels may have changed. As such, trying to determine the level of passenger demand reduction and flight/aircraft withdrawal by airlines that would be required for an airport charge increase to be unprofitable for the airport operator may be difficult until such time as the market has had time to 'settle down'.

3.24 Similar to the discussion earlier, the CAA may therefore need to consider the appropriateness of issuing such information, given the high level of uncertainty.

Question	
Q3.1	What do you consider are the risks/benefits of the CAA undertaking a market power determination in advance of a material change in circumstances? Do these risk/benefits change over time?
Q3.2	Do you consider that there are particular milestones that, if passed, suggest that the CAA should undertake a market power determination in advance of a material change in circumstances?
Q3.3	If the CAA does not undertake a market power determination in advance of a material change in circumstances, would it be helpful for the CAA to publish relevant information? If so, what information do you consider would be useful for the CAA to release?
Q3.4	If the CAA did release information before any new capacity was available, and there was a high level uncertainty with that information, would you find that information useful?

CHAPTER 4

Risk, regulation and financing

Introduction

4.1 This chapter considers potential issues associated with risk, regulation and the financing of any capacity expansion, including:

- risk and the CAA's duties;
- risks with new capacity;
- managing risk;
- the effect of risk on the financing of a project;
- the CAA's potential regulatory approach; and
- other issues, including Government financial assistance and the appropriate length of a regulatory control period.

Risk and the CAA's duties

4.2 Given the significant uncertainties which attach to the economic regulation of a large project over decades, allocation of risk is a more significant consideration than it might be for a project with a shorter timescale and lower forecast costs. While the CAA's statutory duties do not explicitly instruct it to manage the allocation of risk between stakeholders or to allocate it in any particular way, risk has a bearing on the CAA's:

- primary duty to further customers' interests – this could be taken to mean that risks borne by passengers should be remunerated and/or reduced, particularly if there is evidence that passengers are more risk averse than other stakeholders. In addition, it might mean that the CAA should look to allocate risk away from the consumer as they may not be best placed to manage it;
- duty to promote competition – this could imply some toleration of increased risk to the airport operator as firms in competitive markets usually face more business risk than those with SMP;

- duty to secure that each holder of a licence can finance its activities – this could imply a cap on the amount of risk that a licensed airport operator should be expected to bear (if risk above that cap means the financial markets close to the operator); and
- duty to promote efficiency and economy on the part of licence holders – this could mean that the CAA needs to give consideration to how best to ensure that the capacity expansion is delivered efficiently and economically.

4.3 The CAA therefore needs to carefully consider the potential effect of risk and how, in managing its duties, it takes this into account.

Risks with new capacity

4.4 When considering whether or not to undertake a project, businesses typically balance the different risks and uncertainties that are embodied in the project against the expected reward. Risk will therefore affect the cost at which finance can be sourced and the returns that investors may expect.

4.5 Risks that the CAA considers a potential investor in any new capacity may be particularly interested in include:

- demand risk – the idea that airport operator's forecasts may not accurately predict the amount of capacity that airlines are willing and able to buy. The risk for an airport operator is that it produces too much capacity relative to demand, resulting in lower than expected cash flows (revenues) and profits. The CAA understands that demand risk is one of the most significant risks for investors, and that there may be differences between the demand risk borne by an established airport operator with known capacity and utilisation and the demand risk faced by an airport operator operating new (untested in the market) capacity;
- construction/building risk – this includes such things as the level of detail design delivered by the owner, changes in the work, availability of resources, accidents (such as collision, fire and so on) and actual quantities of work;
- cost risk – this refers to the risk that the scope, cost and schedule of a project deviate from the original forecasts;

- financial risk – the possibility that shareholders will lose money if the company's cash flow proves inadequate to meet its financial obligations. When a company uses debt financing, its creditors will be repaid before its shareholders in case it becomes insolvent. Also, the possibility of a corporation or government defaulting on its bonds, which would cause those bondholders to lose money;
- regulatory risk – the risk that a change in laws and regulations (or how they applied) will materially affect a business, sector or market; and
- political risk – this is broadly the complications businesses and governments may face as a result of what are commonly referred to as political decisions – or any political change that alters the expected outcome and value of a given economic action by changing the probability of achieving business objectives.

4.6 The level of risk within each of the above listed categories is not constant over the life of a project. There could, for example, be different levels of risk within each category to reflect different phases/aspects of a project. For example, particularly complex engineering challenges may be relatively riskier than other (simpler) engineering aspects. Similarly, regulatory risk may be different towards the end of a particular regulatory control period (as it may be unclear what the regulator may do next) relative to that at the beginning of the next regulatory control period (where the regulator has outlined what it intends to do). The CAA notes that the Competition Commission (CC, now the CMA) considered that these risks were unlikely to be as significant a risk to the recovery of investment as demand risk.[17] However, the CAA has also been told that regulatory and political risks are increasingly important, not least as these can be difficult for financial markets to forecast and model.

[17] The precise design of the price control may affect the degree to which these risks are borne by the airport and airlines/users. The price cap will be designed with reference to the CAA statutory duties.

Managing risk[18]

4.7 The CAA considers that regulators can adopt one of three strategies to try and manage risk – tolerating, mitigating or transferring.

4.8 In the CAA context, tolerating a risk means that the CAA must decide if they are unwilling or unable to take measures to reduce the probability and expected impact of a risk. When a risk is tolerated the CAA considers that it is important that this is communicated to all relevant parties.

4.9 Transferring a risk within the CAA context means shifting the responsibility for managing the risk to one or more different players, which in this case means airlines, airport operators, users and potentially the Government.

4.10 Mitigating a risk in this context means developing a regulatory response to reduce its probability and expected impact. This could involve developing a new regulatory approach or revising existing regulation.

4.11 In considering risk, it is important to recognise that risk has a price. Attributing a risk to a stakeholder without attributing a commensurate reward could be considered as equivalent to extracting a rent from that stakeholder. In addition, reducing risk for one stakeholder or group of stakeholders can also mean increasing it for others. For example, most proposals for reducing the airport's level of exposure to passenger numbers imply passing that risk on to airlines and, indirectly, to passengers. It is therefore important to consider such secondary effects in any decision that involves the allocation of risk, especially as such effects can be significant and are not always immediately obvious. It is also important to consider which stakeholder group is best able to manage the risk.

4.12 There is also, inevitably, a significant degree of overlap between stakeholder groups on the risks which they face. For example, under the current system of RAB-based regulation, an unanticipated increase in financing costs will affect:

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[18] United Nations Economic Commission for Europe, Risk Management in Regulatory Frameworks: Towards a Better Management of Risks, available at: http://www.unece.org/fileadmin/DAM/trade/Publications/WP6_ECE_TRADE_390.pdf (accessed 21 May 2014).

- the airport operator before the price control is reset (although only efficient financing costs should be considered by the CAA as part of any assessment);
- airlines and cargo operators (if they cannot pass on to customers all the increase in charges after the price is reset at the next review); and
- final customers (to the extent that airlines and cargo operators do not absorb the increase in regulated prices).

4.13 The CAA has undertaken a preliminary analysis of the risks of capacity expansion to key stakeholder groups, which is summarised in appendix D.

Implementing risk treatment strategies

4.14 Regardless of the approach to risk that is ultimately chosen, implementing risk management treatment in a regulatory system requires monitoring and evaluation. This could involve a number of features including:

- integrating regulatory and risk management measures into existing processes;
- monitoring the level of risks and their potential impact; and
- deciding on the role and potential use of penalties and or incentives to ensure optimal outcomes.

4.15 In considering the distribution of risk between stakeholders, the CAA considers that risk should generally be attributed to those parties that can best manage it, as:

- the party that controls the risk can benefit or suffer from its own decisions, rather than those of others; and
- if different parties have different risk preferences, the overall impact of risk is reduced by better allocation. This is because, since the party that can manage the risk is incentivised to reduce it, it can be expected that the level of risk would be lower than would otherwise be the case.

Regulatory risk

4.16 The CAA could look to mitigate regulatory risk by starting a process that outlines how it intends to treat costs associated with runway capacity. The CAA could also look to UK and international experience on how other regulators have dealt with large infrastructure project (see appendix B). For example, extending the length of the regulatory control period to provide greater stability over a longer period of time, could be appropriate, although there are risks with such an approach (see 'Other issues' discussion later in this chapter).

4.17 The CAA considers that regulatory risk can be reduced by ensuring a long track record of predictable decisions. This can have the beneficial consequence of reducing the rate of return which investors demand for financing capex. This is normally a significant consideration in industries such as airports, with large investment needs. However, adhering rigidly to precedents in the face of changing circumstances can result in decisions which are sub-optimal. It is therefore important to balance regulatory certainty with the need to adopt different approaches for changing circumstances.

Political risk

4.18 It could be argued that political risk should be carried by those who want to expand (airport operators), as all businesses face some sort of political risk. In particular, looking to mitigate this could be considered industry specific special treatment. This could distort incentives and may result in an inefficient outcome, which would be to the ultimate detriment of users.

4.19 However, requiring an airport operator to assume the potentially significant sunk costs associated with airport expansion could jeopardise the airport operator's financial viability, even if those costs were efficiently incurred. It may also put off the airport operator from investing sufficiently in appropriate plans at the development stage, increasing the risk that any plans and associated costs are inefficient. In addition, requiring the airport operator to assume this risk could, in turn, jeopardise the CAA’s statutory duty to ensure that licence holders can finance their licensed activities. Furthermore, it could increase investors’ perceptions of regulatory risk and raise the financing costs of the industry as a whole.

4.20 The CAA could look to mitigate political risk by transferring the risk to either Government or users. However, as the CAA is not able to compel the Government to accept any such risk, the CAA may have to recognise the presence of this risk or it could look to transfer (some or all of) this risk to users. The CAA's current regulatory framework has ensured that costs incurred by airport operators that have previously looked to undertake runway expansion which was then put on hold by Government, have been paid for by airlines and passengers.

4.21 Assuming that the Government was willing to accept the political risk associated with this project, there are a number of options around the timing of any such intervention. Potential triggers points when the Government could intervene (absorb any costs that an airport operator has incurred), following a decision to reverse its decision to allow capacity expansion in the south-east of England include:

- the granting of planning permission for the capacity expansion;
- the commencement of building/excavation work at the airport; or
- another date, as determined by the Government.

Demand risk

4.22 The decision on whether or not capacity expansion can and will proceed is determined by Government and the airport operator respectively. It may not therefore be appropriate for the CAA to mitigate this risk directly, as ultimately this is a Government and business decision, and therefore any risk would probably be best managed by them.

4.23 However, the CAA recognises that its approach to regulation (including, how long a regulatory control period it sets, the frequency at which certain aspects may be refreshed, whether a dual or single till is used and the strength of the incentives it sets) will influence how an airport operator behaves, including with respect to encouraging airlines and/or passengers to use its airport(s). As such, the CAA's regulatory approach can play a role in mitigating this risk.

Cost risk

4.24 An airport operator that is undertaking any investment should be incentivised to keep the cost of a project under control. In general, under the current regulatory approach, only efficient costs associated with a project can be added to the RAB, with any inefficient costs having to be borne by the airport operator. While such costs would usually be assessed at the midpoint and towards the end of a regulatory control period, the CAA could look to mitigate this risk by requiring:

- that the airport operator provide regular updates on costs that have been incurred relative to forecasts (a reputational incentive);
- the use and involvement of the Independent Funds Surveyor; and/or
- the use of Constructive Engagement (CE) – see chapters 6 and 7.

4.25 Options regarding how the CAA could treat the costs that may be incurred by an airport operator are discussed in more detail in chapters 6 and 7.

Construction/building risk

4.26 Similar to the discussion on cost risk above, the airport operator that is undertaking the development of any capacity should be incentivised to keep the cost and scope of the project under control, with any inefficient costs being incurred by it. As construction/building is not in the CAA's area of expertise, it considers that it would be appropriate for the airport operator to manage this risk.

Financial risk

4.27 While the CAA does not, per se, consider it appropriate to take active steps to mitigate the risks that an investor may face, it can look to ensure that regulatory risk is mitigated as much as possible (see above discussion). It can also, through regulation, ensure there that the airport operator has appropriate financial resilience. The CAA considers that these factors, when taken together, may help mitigate (although not remove) the financial risk for investors considering investing in the airport business.

Questions	
Q4.1	Do you considers that risk be allocated to those parties that are best able to manage it?
Q4.2	If risk is perceived as too high, do you consider that the CAA should look to try and address those risks?
Q4.3	Do you consider that the CAA's approach to mitigate, attribute and remunerate risk is appropriate? Do stakeholders consider that there are other options?
Q4.4	Are the risks that the CAA has indentified the key risks that you are concerned about? Are some of these risks more important than others?
Q4.5	Do you consider the CAA's proposed risk mitigation strategies are appropriate? What are the costs and benefits of these strategies? Is there anything else the CAA could do to help manage risk?
Q4.6	Do you consider that the Government has a role in the mitigation of risk, particularly political risk?

The effect of risk on the financing of a project

4.28 The CAA recognises that HAL and GAL have complex financing arrangements. It also recognises that risk and uncertainty can affect the financing of a project through:

- the debt rating of any project;
- the financial structure adopted by an airport operator;
- the calculation of a weighted average cost of capital (WACC); and
- the appetite of investors.

4.29 Put simply, the CAA understands that the higher the level of risk (and the lower the actual or perceived ability of the airport operator to manage it), the higher the rate of return required by the market for supporting any project.

4.30 At the broadest level, there are a number of mechanisms by which an airport operator could look to raise the necessary funds for a project, although debt and equity are the two key ones. Which approach an airport operator would actually adopt is a complex decision and some of the benefits and costs associated with this are outlined in Figure 4.1 below.

Figure 4.1: Advantages and disadvantages of debt and equity financing

	Debt financing	Equity financing
Advantages	Retains control and ownership of the project	No need to channel profits into loan repayment
	Tax deductible interest payment	Investors often take a long term view
	Loans can be short term or long term	More cashflow available
Disadvantages	A fixed (often very long) length of time for loan repayment	May require higher returns than bank loans
	A high level of debt may cause cashflow problems and make future equity financing difficult	Equity investors may demand control and ownership
		Takes time and effort to identify the right investors

Source: CAA analysis

4.31 Of course, there is not just an either or option. An airport operator can look to use a combination of debt and equity to meet its needs. Perhaps more importantly, the CAA considers that the relevant airport operator will, with the market, work out what is the best way to finance any project, including through potentially developing new financial products.

4.32 However, the CAA understands that there may be some challenges in an airport operator obtaining the finance necessary to undertake any airport expansion. For example, a recent KPMG report[19] noted that:

'...*the capital cost of the potential schemes ranges from £16.6 billion to £115.5 billion and that we know of precedent of this scale for any purely privately promoted and financed projects (without government or other support) in the UK or worldwide. We believe the quantum of unsupported construction equity available in the market is unlikely to exceed appropriately £1 billion assuming investment risk in reasonable*...'

[19] KPMG, Airports Commission, Interim Report, High-level Commercial & Financial Assessment of Selected Potential Schemes, 10 December 2013, p. 5.

'*This suggests that debt finance would be a critical element of any private strategy. However ... this financing would far excess the capacity of the bank debt market for short-term construction finance, which we believe is limited to approximately £1 billion-£2 billion. Bond financing would therefore be the most significant element of any debt financing strategy ... [however]... can be difficult to finance without some form of pre-funding or 'profiling' of revenues*.'

4.33 That said, at a recent (14 May 2014) CAA/industry workshop some stakeholders suggested that there would be no issue with an airport operator obtaining the necessary finance, given the current state of the market.

4.34 While the ability of an airport operator to raise the necessary finance is an important issue, the CAA has not assessed, nor is it its role to assess, whether or not an airport operator can finance capacity expansion (with or without Government assistance). However, and as noted earlier, the CAA:

- has a duty to ensure that airports are financially resilient; and
- recognises that its regulatory decisions can affect the financing of projects.

Financing and the CAA's potential regulatory approach

4.35 While the CAA cannot fetter its discretion, the CAA understands that continuing the regulatory approach that it is currently applying to HAL and GAL would provide some degree of regulatory certainty and therefore comfort to stakeholders, particularly airport operators and investors. Under current arrangements, this could would suggest that efficiently incurred capex would be:

- added to the RAB in the case of HAL; or
- passed through to consumers in the case of GAL.

4.36 However, the CAA continuing to apply these approaches, given the size of any capacity expansion, may not be in the best interests of users. In particular, the approach that was developed for GAL was not designed with a large runway expansion capex program in mind.

4.37 Assuming that a RAB-based approach is applied to any new capacity at Heathrow or Gatwick, a number of regulatory issues would, however, still need to be addressed, including with respect to the timing, indexation and depreciation of any capex.

4.38 Consideration of alternative regulatory approaches, including those adopted for other UK and international projects, may also be appropriate. These alternative approaches may be particularly relevant if there are differences in risks between large anticipated capex and an airport operator's day-to-day business (including smaller, potentially less risky capex programs).

4.39 Issues associated with using a RAB-based approach and what case studies have highlight are examined in more detail below.

Using a RAB-based approach

4.40 If a RAB-based approach was adopted for any runway expansion project this could mean that regulatory approach used for HAL could remain largely similar, while GAL would potentially have to be regulated by both a RAB-based approach and a Licence Backed Commitments (LBC) approach.

4.41 With respect to the potential situation at HAL, one of the fundamental issues that would need be considered would be whether to add any capex straight to its existing RAB or to use a separate, runway expansion specific RAB (potentially to reflect differing levels of complexity and risk of the project). This would, however, assume that appropriate ring fencing provisions could be established.

4.42 There are a number of precedents for different regulatory returns for the assets owned by the same company in economic regulation. For example, some American electricity utilities are granted higher rates of return for certain capex projects. On the assumption that the policy that returns are earned on assets in the course of construction (AICC) is retained, the allowed return would be added to the price cap. The case studies that the CAA has examined are available in appendix B.

4.43 While there may be scope to apply different RABs, potentially at earlier stages of a project, once the new capacity is operational, there could be merit in merging any such RABs. This would be the case if, for example, the political risk associated with the expansion had been significantly reduced and/or the construction risk had been reduced (if not eliminated). Similarly, demand (and therefore financial) risk could have been reduced following the potential signing of any long-term contracts between the airport operator and airlines. As such, the cost of debt and equity for the new runway may no longer differ from that associated with other aspects of an airport operator's existing business. Applying different WACCs to the two RABs would therefore no longer be appropriate.

4.44 With respect to the potential situation at GAL, having two distinct regulatory approaches, LBC for the existing airport and a RAB for the new runway, may be possible. However, there could be a number of practical difficulties with such an approach:

- having a dual approach could impose significant additional regulatory and administrative burden on the CAA, the airport operator and the airlines; and
- it may be difficult for the CAA to separate, with the required degree of certainty, many of the different aspects of the existing and new airport, not least as a new runway will be an integral part of GAL's whole operation. For example, a RAB-based approach would require the use of passenger forecasts, yet having a separate passenger forecast for just the new runway would pose a number of significant conceptual and theoretical difficulties. Similarly, while it might be relatively simple to identify the split between existing and new capex costs, it would be much more difficult for opex costs to be separated, unless there was some sort of financial separation.

4.45 This could suggest that an appropriate approach for GAL going forward (assuming ongoing economic regulation) may be for the CAA to determine one regulatory approach to be applied across all of GAL in the event that GAL's proposal is approved and that GAL decides to take the project forward.

4.46 However, the scenario outlined above implies that there is no scope for GAL and the airlines at Gatwick to go beyond LBC and come to some sort of commercial agreement on how to treat costs. While this is possible, given the infancy of the LBC approach, some may view it to be premature to consider such an approach at this stage.

Other approaches – case studies

4.47 The CAA has considered regulatory approaches that have been used in the aviation sector and in other regulated areas to see if there are lessons that can be learned as to how regulation could be applied. In particular, the CAA has considered:

- three UK airports sector specific projects:
  - the subsidisation of the construction and initial operation of Stansted by Heathrow and Gatwick through the system approach of price controls from 1991;
  - the construction of Heathrow's Terminal 5 in Q4; and
  - the project for the sustainable development of Heathrow (PSDH) in Q5
- two international airports sector specific projects
  - the third runway at Hong Kong International Airport (HKIA); and
  - the new terminal at Dublin Airport.
- Thames Tideway;
- Northern Ireland gas networks;
- GB offshore electricity transmission; and
- Regulated third party access arrangements for liquefied natural gas (LNG) facilities in UK.[20]

[20] The CAA has not considered projects such as Crossrail or High Speed 2. The CAA recently considered the appropriate level for HAL's contribution to the Crossrail project in Appendix C of Economic regulation at Heathrow from April 2014: Notice granting the licence, available at: http://www.caa.co.uk/CAP1151.

4.48 The findings from these case studies (see appendix B) are as follows:

- where it has been possible to treat expenditure in a way consistent with previous practice by putting it through an existing RAB, the CAA has done so. This was the case with Heathrow's Terminal 5 and PSDH expenditure (although it is important to note that the CAA made these decisions under the Airports Act 1986, not the 2012 duties that place greater emphasis on passengers);
- in the international airport case studies, the role of Government finance is limited, with the Dublin Airport Authority (DAA) having to fund its expansion plans itself (notwithstanding the Government telling it to do so) and Airport Authority Hong Kong (AAHK) only highlighting that it might have to consider government assistance at a later stage, although it recognised that this would go against the user pays principle;
- in other industries, regulators have used or are considering using alternative arrangements. For Thames Tideway, the Government is considering using an Infrastructure Provider (IP), and for offshore electricity transmission, a franchising regime has been used. In LNG, long-term contracts can support investment arrangements and regulatory involvement is kept to a minimum, with a focus on ensuring the general framework that is adopted is fit for purpose;
- greenfield projects, such as Stansted Airport or the Northern Ireland gas networks, have often demanded different regulatory treatment, though usually within the context of a RAB-based price control. However, the approaches to greenfield site development, which have often implied transferring more risk to users, have sometimes meant that, the framework has had to be reassessed when demand has fallen short of forecast. Such revisions can be to the detriment of final users, though arguably they are no worse off than they would have been had the demand assumptions been accurate to begin with; and
- it is possible to incorporate subsidies, either from other regulated business, or government grants, within the framework of a RAB-based price control.

Questions	
Q4.7	Do you consider there would be difficulties for an airport operator in raising the necessary finance to undertake airport capacity expansion? If so, what are these difficulties?
Q4.8	Do you consider that Government involvement would assist an airport operator gaining the necessary finance for capacity expansion?
Q4.9	Do you consider that the risks associated with undertaking a runway expansion project are significantly different from the ongoing (day-to-day) risks faced by an airport operator?
Q4.10	Do you consider that economic regulation (RAB-based or other) is important to the financing the investment in new runway capacity, by ether lowering the cost of capital or increasing the availability of funds?
Q4.11	What form of regulation do you consider most appropriate for expanding runway capacity? Do you consider that using two RABs or LBC and a RAB would be appropriate? Are there any other approaches that the CAA should consider? What are the costs and benefits associated with these approaches?
Q4.12	Do you consider that the case studies provide insight into how the CAA should regulate going forward? Is there merit in the CAA considering special purpose vehicles or only allowing the pass through of efficient costs (or additions to the RAB) in a staged manner?
Q4.13	Do you consider there are other case studies that could provide useful insights?

Other issues

4.49 There are a number of other issues that the CAA considers are of particular interest with respect to risk, regulation and the financing of any capacity expansion – Government assistance and the appropriate length of the regulatory control period. While both of these issues have been briefly mentioned, this section seeks to explore these issues in more detail.

Government financial assistance

4.50 The Government, given its level of interest and involvement in the aviation sector, may consider it appropriate to provide financial support to an airport operator to ensure that runway expansion occurs. Assistance could come through a number of ways, including:

- direct, lump-sum grants;

- allowing the airport operator to keep some or all of the Air Passenger Duty which the passengers of the airport would pay;
- Government guarantees for the loans which the airport operator needs to finance the delivery of capacity;
- indemnifying the airport operator against any (efficient) expenditure should the Government reverse its decision on capacity expansion;
- per passenger subsidies once the new capacity is in operation; and/or
- the provision of infrastructure (roads, tunnels, bridges) that will complement the actual building of the runway.

4.51 How the CAA intends to treat Government financial assistance in any applicable economic regulation of an airport operator will have a significant effect on the profitability of any investment and will be of fundamental importance to the airport operator undertaking that expansion. In exploring this issue the CAA will not be expressing a view on whether Government financial assistance is necessary or if it would be compliant with European State Aid requirements.

4.52 Possible approaches that the CAA could take with respect to Government financial assistance could include:

- do nothing – do not take any explicit decision on the merit or the efficiency of this as it would be an issue that should be agreed between the airport operator and the Government. However, if this approach was adopted, the CAA could potentially end up allowing Government funded capex to be added to the RAB;
- not allowing it to be added to the RAB, an approach that was adopted for government grants in the construction of the Northern Ireland gas networks (see appendix B). This would ensure that the airport operator does not receive a rate of return on any Government funded assets(s);
- permitting a lower WACC than would otherwise have been the case as the Government assistance, in the form of guarantees, could help ensure that the airport operator would be able to obtain the required finance at a lower rate than would otherwise have been the case; and

- placing incentives on airport operators to ensure that any financial assistance is used in an efficient manner. For example, there may good reason to have a requirement that an airport operator that receives direct financial assistance be required to demonstrate any expenditure is efficient. Where this is not demonstrated, a reduction in its RAB or a requirement to return any inefficiency to Government may be appropriate.

4.53 The CAA does, however, recognise that once any direct Government funding has been provided and used to fund a capex project, that there may be ongoing opex costs. As such, there could be merit in allowing the efficient opex costs associate with any efficient capex to be recovered in some way.

Length of the regulatory control period

4.54 Another approach that the CAA could use to help mitigate risk, with any expansion project would be to consider the merits (or not) of longer regulatory control periods.

4.55 Since assuming responsibility for economic regulation, the CAA has, in general, set price caps for around five years at a time. However, the Act enables the CAA, subject to its statutory duties, to set price controls for time periods other than five years. For example, the Q6 price cap for HAL was set for four years and nine months while Gatwick has LBC that last seven years.

4.56 It would also be possible for the CAA to set, for example, a five year price cap for existing capacity and set a different length period for new capacity. As noted in appendix B, there are examples for the adoption of such an approach in other sectors. For example, in Northern Ireland, decisions for the gas distribution sector involved fixing the WACC for 20 years (although it had to be re-opened after 10 years), and the GB offshore electricity transmission franchises are set for 20 years.

4.57 There are advantages and disadvantages with setting price caps with long durations. In terms of advantages:

- A commitment to longer-term price controls could give airport operators a clear financial stake in controlling their costs over a longer time horizon. This is likely to change the way that the airport operators plan their activities, anticipate customer needs and innovate. Put simply, it may enable a more strategic approach to be adopted. This, in turn, could help an airport operator to reduce and restrain its costs over the longer term and thereby improve value for money for consumers. It may also help reduce the regulatory risk that an airport operator may face.
- Longer-term price controls could also reduce the administrative and regulatory burden of the price control regime. Less work may be required overall if price control reviews are carried out less frequently. However, the work at each price control review may be more intensive. Longer-term price controls may also need to be accompanied by regular monitoring of companies' performance.

4.58 There are also a number of potential drawbacks of which the following two stand out:

- The regulatory regime is likely to be less adaptable. It would be more difficult to makes changes to what airport operators are required to deliver and to improve the regulatory arrangements over time.
- The uncertainty faced when forecasting costs over a longer timeframe might increase the risks that airport operators find themselves unable to finance their activities; it might also increase the risks that airport operators earn what could be perceived as 'windfall profits'.[21]

[21] Rekon, Longer-term price controls, Paper prepared for Ofgem's RPI–X@20 review, https://www.ofgem.gov.uk/ofgem-publications/52025/reckon-lt-controls.pdf (accessed 13 May 2014).

Question	
Q4.14	Do you consider that there is a role for Government in providing financial assistance for any capacity development?
Q4.15	How do you consider the CAA should take into account any Government financial assistance? Are the there any particular concerns/benefits with the approaches that the CAA has outlined?
Q4.16	What do you consider are the costs and benefits of extending the duration of a price control (or elements contained within it)?
Q4.17	What do you consider would be the appropriate duration of a price control (or the elements contained within it)?

CHAPTER 5

Inter-generational issues

Introduction

5.1 This chapter considers inter-generational issues in the financing of significant airport capacity expansion. This is an important issue as it could be many years, even a decade, between an airport operator incurring significant project costs associated with any new runway capacity and them being used by passengers. The key question is the extent to which existing airlines and airlines contribute to financing additional runway capacity which then becomes a benefit for new airlines and passengers. This chapter considers:

- the CAA's statutory duties;
- inter-generational transfers;
- the different generations potentially affected by airport capacity expansion;
- inter-generational issues at regulated airports; and
- possible approaches to expenditure.

The CAA's statutory duties

5.2 The CAA's statutory duties give it considerable latitude to consider the interests of different groups of customers, including those from different generations. In particular, section 1 (5) of the Act states that if, in a particular case, the CAA considers that there is a conflict –

- between the interests of different classes of user of air transport services, or
- between the interests of users of air transport services in different matters mentioned in subsection (1),

its duty under subsection (1) is to carry out the functions in a manner which it considers will further such of those interests as it thinks best.

5.3 To do this, the CAA will need to consider what are the costs and benefits of inter-generational transfers.

Inter-generational transfers

5.4 The living standard of any generation is determined, in part, by the quantity and quality of the assets and resources they obtain from other generations, including infrastructure such as runways.

5.5 Inter-generational transfers impose costs and benefits that affect different generations in different ways, sometimes favouring particular generations and other times disadvantaging them.

5.6 To help decide whether or not to develop a long-lived investment, such as a runway, a view has to be made on whether the users of today will be the same as the users of tomorrow and whether, comparing with the current generation, the next generation (or generations) of airlines and passengers will be:

- richer and, perhaps more importantly, would they be willing to pay for a new runway;
- poorer and unwilling to pay for a new runway; or
- be equally rich/poor, and would be willing to share the cost of a new runway (equally).

5.7 The willingness for any particular generation to pay for any new runway capacity may be a reflection of the level of demand for airport aviation services at that particular time. A generation that is demanding more runway capacity could therefore be more willing to pay for it than a generation where there is less demand.

5.8 To help determine which generation may value the investment more a net present value (NPV) calculation may be required. This helps determine the overall value of future cash flows. In particular, as the time value of money, a pound earned in the future will not be worth as much as the same amount earned today. The use of a discount rate in the NPV formula helps address this.

Passenger demand forecasts

5.9 With respect to the level of demand, DfT's 2012 aviation demand forecasts note that:

- demand for air travel is forecast to increase within the range of 1% to 3% a year up to 2050, compared to historical growth rates of 5% a year over the last 40 years. The slowdown in growth rates in the future reflects the anticipation of market maturity across different passenger markets and a projected end to the long-term decline in average fares seen in the last two decades; and
- its central forecast, taking into account the impact of capacity constraints, is for passenger numbers at UK airports to increase from 219 million passengers in 2011 to 315 million in 2030 and 445 million by 2050. This is an increase of 225 million passengers over the next 40 years compared to an increase of 185 million since 1970.[22]

5.10 DfT's 2012 aviation demand forecasts report also states:

In the central forecast, the five largest South East airports are forecast to be full by 2030. However, the high and low demand scenarios underline the uncertainty around this conclusion. With the range of demand used they could be full as soon as 2025 (the high case) or take until 2040 (the low case). Heathrow had effectively reached capacity in 2011 and it is forecast to remain at capacity in all scenarios. In the high and central demand cases, a number of other airports are expected to reach capacity over the forecast period including Birmingham, Bristol, East Midlands and Manchester.[23]

5.11 DfT's constrained forecasts, which make a number of assumptions[24], also find that capacity utilisation will reach 100 per cent for Heathrow

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22 DfT, Aviation Forecasts 2012, p. 1 – available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/70259/aviation-forecasts.pdf (accessed 30 May 2014).

23 DfT, Aviation Forecasts 2012, p. 8.

24 These assumptions include: (1) no new runways are built in the UK. The CAA considers this to be reasonable for forecasts, at least up to 2020, as the Commission is scheduled to report in 2015 and there would a lag in capacity becoming available following this decision; (2) schemes that are already in the planning system and airport master plans are implemented by 2020; (3) incremental growth to full potential long-term capacity by 2030 taking into account the airports' own longer term plans, physical site constraints and up to 13 per cent capacity gain (where possible) through operational and technological improvements; (4) terminal capacity increased incrementally to service additional runway capacity; and (5) no changes after 2030.

and Gatwick by 2020, and London airports overall will have 86 per cent utilisation.[25]

5.12 The CAA considers that this suggests that stakeholders who are in the current generation as well as those over the next (approximately) 40 years may have a high demand and therefore willingness to pay for additional airport capacity. This could suggest that there would be an important role for Government in ensuring that this new capacity is built, including potentially by providing financial assistance to an airport operator.

Different generations affected

5.13 The above discussion has so far assumed that generations are a single, homogenous group. In practice, generations can be far more varied and can be segmented with respect to airlines and by airline business model – low cost carriers (LCCs) and full service carriers (FSCs).

5.14 The CAA recently considered the differences and similarities of different airline business models in its recent MPDs. For example, in the GAL MPD Consultation, the CAA highlighted that considering the LCCs and charters and the FSCs and associated feeder traffic markets separately was appropriate.[26] However, the CAA received a number of responses from airlines and airport operators that suggested that the CAA had:

- misinterpreted evidence and placed too much weight on differentiation in services between the two main carrier types;[27] and

[25] DfT's 2012 constrained forecasts are lower that the forecasts that it produced in 2011. However, the CAA considers that the evidence clearly suggests that capacity constraints will tighten in the short to medium term up to at least 2020, as no new runway capacity is currently expected before that date.

[26] The Consultation, paragraphs 5.18 to 5.34

[27] GAL, CAA's Gatwick Market Power Assessment: Response from Gatwick Airport Limited, reference Q5-050-LGW60, 26 July 2013, easyJet, easyJet response to CAA consultation on Gatwick airport market power, July 2013, BA, BA Response to CAA consultation on Gatwick market power assessment of May 2013, 26 July 2013, MAG, Civil Aviation Authority Stansted Market Power Assessment; Interim response of MAG to the CAA's 'minded to' document 24 May 2013.

- not given sufficient weight to the competition between the differing types of carrier especially on short-haul routes.[28]

5.15 Having considered this, the CAA concluded in the MPDs that segmentation by airline business model was no longer appropriate, although it recognised that were significant operational differences between LCCs and FSCs.

5.16 Given the CAA's recent MPD findings, and considering the views expressed by airlines in response to MPD consultations, the CAA is not inclined to consider that segmentation of generations by business model would be appropriate. However, similar to the MPD decisions, the CAA continues to consider that are significant operational differences between LCCs and FSCs.

5.17 The CAA recognises that business models may change going forward but at the moment the distinction between models appears to be diminishing. In addition, as discussed earlier, there is strong demand going forward for capacity across the south-east of England.

Questions	
Q5.1	Do you consider that the generation that is demanding a particular piece of infrastructure should pay for it?
Q5.2	How do you consider that the costs of a large project such as runway expansion could be spread across different generations, that is between existing users (airlines and passengers) and new runway users (airlines and passengers)?
Q5.3	Do inter-generational issues suggest that there should be a role for Government in providing financial assistance to the airport operator undertaking any capacity development?
Q5.4	Do you consider that airline business model should be taken into account when considering the potential allocation of airport expansion costs to airlines?

[28] GAL, CAA's Gatwick Market Power Assessment: Response from Gatwick Airport Limited, reference Q5-050-LGW60, 26 July 2013, easyJet, easyJet response to CAA consultation on Gatwick airport market power, July 2013, BA, BA Response to CAA consultation on Gatwick market power assessment of May 2013, 26 July 2013, MAG, Civil Aviation Authority Stansted Market Power Assessment; Interim response of MAG to the CAA's 'minded to' document 24 May 2013.

Inter-generational issues at regulated airports

5.18 So far, this chapter has examined inter-generational issues at a relatively high level. This section considers these issues at a more granular level and considers differences in the timing of the funding of large capital projects and of the use of the assets by customers.

5.19 This section is particularly important as:

- it can be many years, even a decade, between the airport incurring the first significant project costs and the runway and terminal buildings being used by the first passengers; and
- the costs of such expansion are substantial compared with the existing RAB at Heathrow and the RAB previously used at Gatwick. This means that the price for those passengers who fund the additional asset but do not use it is likely to be substantially higher than if the assets had not been constructed, though they do not benefit from the asset.

5.20 Taken together, these factors mean that those generations of customers which fund the asset may be significantly different from those that use the asset.

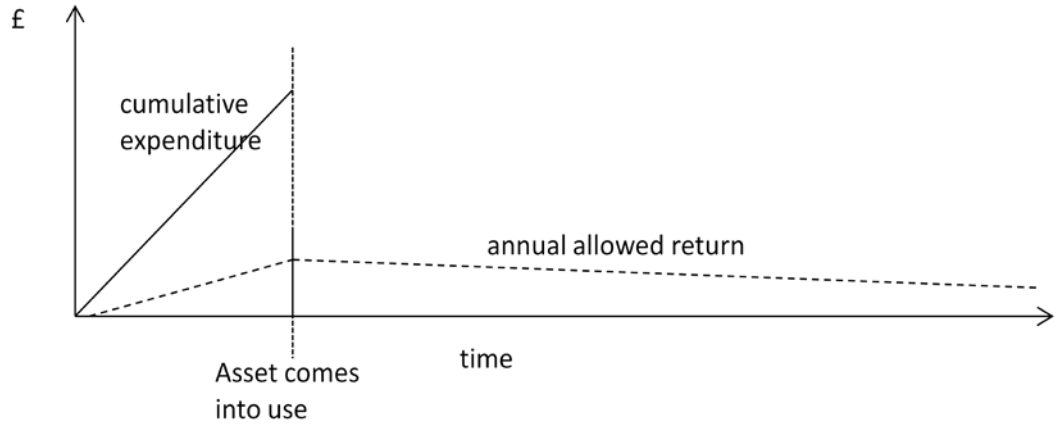
Possible regulatory approaches

5.21 As discussed in chapter 4, the airports regulatory system has, in the past, pre-funded capex. However, other approaches have been used in the airports sector and this section briefly outlines potential approaches.

Approach 1: Current approach to assets in the course of construction (AICC)

5.22 Currently, where a RAB-based approach is adopted, expenditure is included in the RAB in the year in which it is incurred, for the purposes of calculating a regulatory rate of return, even if the asset is not yet in service. The effect of this is shown in Figure 5.1 below. As the expenditure is incurred before the asset comes into use (the unbroken line), the annual rate of return builds up. Once the asset comes into use, the annual rate of return (the dashed line) declines as depreciation reduces the regulatory value of the asset.

Figure 5.1: Profile of expenditure and regulatory returns under AICC



5.23 Where costs are included in the RAB in the year in which it is incurred, it is the current generation that starts paying for this project, notwithstanding that these costs may never translate into something that an airline (or passenger) end up using. This is why, for example, that until STAL was deregulated, that the costs that it had incurred for a stalled runway development project were included in its RAB.

5.24 Importantly, the CC's Q4 report concluded that allowing assets in the course of construction was necessary to secure funding for major projects and/or to reduce the costs of funding (see discussion on risk – chapter 4). It also found that it had desirable properties of reducing the volatility in prices and generating a price path profile more like the profile which might be expected in a competitive market.

Approach 2: Assets in operation

5.25 Another approach that has been raised by regulators is assets in operation (AIO). The CC, in its 2008 report on the Q5 STAL price control, referred to this. Under this option, assets would only be allowed to enter the RAB when they are in operation and not in the course of construction.

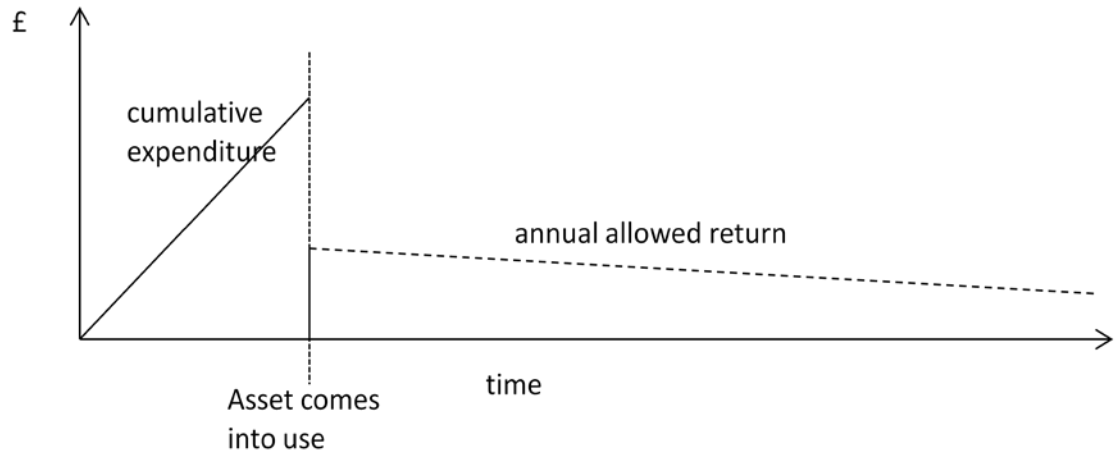
5.26 Depending on how long it takes to build and gain approval for the use of any new capacity, there is scope for different generations of airlines and passengers to end up paying for the efficient costs of construction.

5.27 The difference between AIO and AICC in a simple example can be seen by comparing Figure 5.1 above and Figure 5.2 below.

5.28 Under AIO, there is no allowed return (the dashed line) before the asset comes into use. However, when the asset comes into use, the annual allowed return is higher than under AICC because the expenditure is not allowed to be added to the RAB before it comes into use. In addition, the allowed return declines slightly faster, because the depreciation charge on the accumulated capex is higher.

5.29 While such an approach may create a strong incentive for a project to be completed, the CAA considers that this may have a negative on the ability to secure funding for major projects and/or may increase the costs of funding relative to the AICC case.

Figure 5.2: Profile of expenditure and regulatory returns under AIO



Approach 3: Profiling of revenue

5.30 Another approach that could be considered would be to adjust the time profile of the airport operator's revenues. This was the approach adopted by the CC and CAA during the Q3 and Q4 price controls at Heathrow. Under this approach, the CC and CAA considered that the construction of Terminal 5 increased HAL's RAB so quickly that considerable increases in charges would be required over the space of one quinquennium. To reduce the impact of this, £300 million of expenditure was delayed from Q4 to Q5. This represented the excess of Q4 revenue over an acceptable level, as the CC considered it. The CC then adjusted the airport operator's regulated revenues so that it remained neutral to the change in NPV terms.

5.31 One of the key benefits of this approach would be that the CAA would have much more flexibility in determining what generation of users incurred the costs, with the costs potentially being spread over different generations as demand grows or potentially much later, to generations relatively distant and who may be willing to pay for it.

5.32 However, such an approach is subject to regulatory judgement and volatility in prices could result. The associated regulatory risk may also increase uncertainty and may cause more difficulties in securing funding. It also assumes that an airport operator will be able to carry, potentially over many years, any incurred expenses until it is allowed to be added to a RAB.

Question	
Q5.5	What do you consider are the costs and benefits from adopting a regulatory approach that involves managing costs via assets in the course of construction?
Q5.6	What do you consider are the costs and benefits from adopting a regulatory approach that involves managing costs via assets in operation?
Q5.7	What do you consider are the costs and benefits from adopting a regulatory approach that involves the profiling of revenue?
Q5.8	Are there any addition regulatory approaches that you think the CAA should consider? What are the costs and benefits with those approaches?

CHAPTER 6

High level options for the recovery of costs

Introduction

6.1 This chapter considers options by which efficient capacity expansion costs incurred by an airport operator could be recovered.

6.2 In considering this issue it is important to consider two phases of any potential recovery of capacity expansion costs:

- once there is some certainty as to the location and scope of any capacity expansion (this chapter); and
- before any decision and before the capacity expansion comes into use (see chapter 7).

6.3 Importantly, until any additional capacity comes into use, it is unlikely to significantly affect the CAA's recent MPDs, which found HAL and GAL had, and were likely to continue to have, SMP in the relevant markets. Therefore, until any additional capacity comes into use, both the high-level function and the practice of economic regulation are likely to remain the same at both Heathrow and Gatwick.

The role of economic regulation once any additional runway capacity is operational

6.4 Assuming there is no legislative change to facilitate the development of capacity expansion, the CAA expects that its duties would continue as they are now (see chapter 9).

6.5 The relevant question is therefore how should the CAA ensure that its duties are fulfilled? More specifically, what approaches / methodologies should the CAA adopt if the Government allows one of the proposals shortlisted by the Commission to proceed?

Options for evaluating capacity expansion costs

6.6 With respect to assurance and validation of the costs proposed for additional runway capacity, there are a number of possible options that could be adopted. The CAA considers that there are three main ex ante options (although there could be variations on these):

- **Option 1:** No review of airport operator plans and automatic pass through of costs;
- **Option 2:** High level review of airport operator plans; and
- **Option 3:** Detailed review of detailed airport operator plans.

6.7 Another option that could be considered (**Option 4**) is an ex post assessment of any capex to determine what efficient capex should be added to the RAB.

6.8 The potential benefits and shortcomings of these four options are examined below. Importantly the CAA considers that the option that is ultimately adopted should be influenced by how and when airlines are involved in the development process. The CAA notes that in Q6, Constructive Engagement (CE) played a key role in informing what costs should be included in any regulatory settlement.[29] While CE is discussed in more detailed in chapter 7, it is worth considering this issue as the options below are considered.

Option 1: No review of airport operator plans and automatic pass through of costs

6.9 The CAA would take, as given, the costs outlined in the option that the Government (following consideration of the Commission's recommendations) has agreed can go forward. The rationale being that it would not represent the best use of the CAA's limited resources to undertake another assessment given the Commission and Government would have undertaken an assessment process and determined that the proposed costs were reasonable. This could, therefore, be a relatively streamlined process.

[29] CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow, available at: http://www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/Licensing-and-price-control/Economic-licensing-of-Heathrow-Airport/.

6.10 However, this option could be seen to undermine the CAA's independence and remove the scope for the CAA to independently assess whether these proposals were in the best interests of users. Specifically, it could limit the ability for the CAA to identify the scope for efficiency savings, which could be to the detriment of consumers. In addition, it would remove some of the key elements that the CAA outlined earlier, which include being transparent, ensuring that any plans align with passengers' interests, overseeing the CE process and take the opinions of the CAA Consumer Panel into account.

Option 2: High level review of airport operator plans

6.11 The CAA would (potentially drawing on independent experts) undertake a high level review of the option that the Government has agreed can go forward. This option would allow the CAA to benchmark the proposed costs against other large projects (or through another high level process) to determine if any efficiency gains were possible. This proposal could be relatively straightforward, although could still take longer than Option 1 to complete.

6.12 There could, however, be a number of issues associated with this approach. Notably, while the level of transparency is improved relative to Option 1, there could be scope for further improvement. Similarly, while the CAA could engage with airlines and the Consumer Panel, the level of interaction may be relatively high level and the corresponding benefit may be more limited than it otherwise could have been.

6.13 Under this approach the CAA could be in a stronger position to deflect any potential criticism that it was not acting independently, although it could still be criticised (and any decision potentially challenged) for undertaking a high level review rather than a detailed review. In addition, the airport operator (or other) who may developing the new capacity may not consider any changes to its plans as being appropriate/reasonable, and may look to gain Government support for its plans as 'agreed' by the Government, potentially by highlighting that such reductions could put the development of the runway in jeopardy.

Option 3: Detailed review of detailed airport operator plans

6.14 The CAA would (potentially drawing on independent experts) undertake a detailed level review of the option that the Government has agreed can go forward (or the more detailed plans if they are available). The CAA may therefore look to undertake a capex and opex review and look at various benchmarking and efficiency studies. It could also look at, among other factors, the commercial discussions the airport operator has had with consultants and airlines, including as part of any CE process. If a CE process had not been entered into, the CAA could ask, if it deemed it appropriate, that such a process be undertaken. The CAA could also test its views with its Consumer Panel.

6.15 Significant resources of the CAA and industry could be required to complete this option. The CAA would also have to consider if it has the necessary in-house skills or if it needs to draw on additional resources (be they seconded or external experts) to help with this task. (The time and resources required to complete the recent MPDs and Q6 testify to this.) There could, however, be relatively greater stakeholder participation and a significant increase in transparency.

6.16 The independence of the CAA is also less likely to be questioned under this option, although this could still be challenged. As per Option 2, the airport operator (or other) who may developing the new capacity may not consider any changes to its plans as being appropriate/reasonable, and may look to gain Government support for its plans as 'agreed' by the Government, potentially by highlighting that such reductions could put the development of the runway in jeopardy.

Option 4: Ex post assessment

6.17 An additional option could be for the CAA conduct an ex post assessment of the costs incurred and only allow the efficient costs – as determined by various benchmarking and efficiency studies (as well as any CE and studies that may have been undertaken) – to be added to the RAB.

6.18 One of the benefits of this approach is that for both HAL and GAL this would be largely a continuation of the current approach and would therefore be familiar (recognising that the approach at GAL is still relatively new).

6.19 The adoption of such an approach would create a strong incentive for an airport operator to keep costs down and to run an open and efficient process.

Question	
Q6.1	What do you consider are the costs and benefits associated with the four high level approaches to cost recovery that the CAA outlined? Are there alternative high level options that the CAA should be considering?

CHAPTER 7

Cost recovery – principles and in practice

Introduction

7.1 This chapter considers the ways that capacity expansion costs could be recovered before any Government decision, including costs that may be incurred in Q6. In particular, this chapter considers:

- the principles which the CAA could use to assist it deciding the most appropriate regulatory option for the recovery of costs;
- a summary of the CAA's approach to assessing costs;
- Constructive Engagement;
- what the CAA has said on runway costs in the Q6 documents;
- the milestone which could trigger the recovery of costs; and
- possible options.

Principles

7.2 In assessing the options for the potential recovery of airport expansion costs, the CAA considers that the following criteria may be of use:

- incentivisation: given its primary statutory duty to further passengers' interests, the CAA will look to ensure that appropriate incentives are present so that passengers ultimately benefit from capacity expansion;
- consistency: given the need to ensure that any regulatory intervention adheres to best practice, the CAA will ensure that any intervention is sufficiently targeted (minimises any distortions to the aviation market);
- efficiency: given its statutory duty to promote efficiency and economy on the part of licence holders, the CAA will allow the recovery only of costs which are efficiently incurred;
- risk: the CAA will look to ensure that statutory requirements do not impose so much risk as to undermine its 'financeability' duties; and

- achievable: the CAA will look to ensure that any approach that is adopted can be implemented for the CAA, airport operators and airlines.

Question	
Q7.1	Do you consider that the principles that the CAA has outlined for assessing costs that may arise in Q6 are reasonable? Are there any additional principles (or criteria) that the CAA should consider?

The CAA's current approach to assessing costs

7.3 The CAA has traditionally considered the appropriate level of capex and opex for a regulatory control period so that this can be taken into account in the price control calculation. While this has been translated into RAB-based regulation (as is the case for HAL), the CAA has also adopted other approaches where the evidence suggests that this is appropriate. For example, recently the CAA determined that the most appropriate form of regulation at Gatwick was LBC and that de-regulation of the Stansted passenger and cargo market was appropriate.

7.4 Irrespective of the form of regulation adopted, a key aspect that has helped inform what costs should be considered has been informed by Constructive Engagement (CE). The output of CE – a clear statement of agreement and disagreement between the airport and its airlines – is one of the key inputs to the CAA's determination of regulation at an airport.[30]

7.5 The importance of effective consultation with industry in determining the appropriate costs that should be used was highlighted in the CAA's 2008 Q5 decision, where the CAA set out its criteria for assessing capital efficiency during Q5 to be applied during both the mid-term review and the Q6 review. The tests as set out in the Regulatory Policy Statement (Annex E of the Economic Regulation of Heathrow and Gatwick Airports 2008 - 2013 – CAA Decision) were:

- best practice management; and

30 CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow, available at: http://www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/Licensing-and-price-control/Economic-licensing-of-Heathrow-Airport/.

- effective consultation with airlines in line with the Annex G of the Economic Regulation of Heathrow and Gatwick Airports 2008-2013 – CAA Decision protocol.[31]

7.6 It is also important that CE discussions focus on the interests of present and future passengers and this is the key prism through which outputs are based.[32] While airlines' commercial interests often align with the interests of their passengers, this is not always the case, so the CAA will need to consider this in making any assessment.

7.7 For CE to work, protection needs to be given to confidential information shared during the process. Information needs to be supplied in a manner that enables airlines to understand the impact of their choices on final charges. For example, there should be an integrated debate about the price impact and trade-offs of different options being brought to a central point for upfront evaluation. This enables airports and airlines to have a holistic discussion of the affordability of capital projects.[33]

7.8 Airlines should also be able to understand clearly the benefits and costs associated with the choices for capital projects. Although airports and airlines may not be able to agree on all aspects of the different proposals, including the value of an airport operator's cost of capital, the airport operator should make the assumptions it has used and the possible ranges clear to airlines during its discussions.[34]

7.9 One of the approaches that the CAA therefore uses to determine if the costs incurred by an airport operator are reasonable is to examine the relative efficiency of them by benchmarking. Benchmarking allows the CAA to compare the performance of an airport operator (or HH) with other airport operators at a top-down level.

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31 CAA, Economic regulation at Heathrow from April 2014: initial proposals, CAP 1027, available at: https://www.caa.co.uk/CAP1027, p.221.

32 CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow.

33 CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow.

34 CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow.

7.10 In addition, to inform its views, the CAA often undertakes primary passenger research and surveys and evaluates third-party research to which it has access. From this information the CAA can often draw some key themes to influence its decisions. Furthermore, the CAA can seek scrutiny from its Consumer Panel on its approach to understanding passengers' priorities from airport operation services.

The role and importance of Constructive Engagement

7.11 The CAA considers that CE should continue to be a useful mechanism by which airport operators (or HH, potentially through an arrangement with HAL) could engage stakeholders on the design and costs of developments at an airport, including large infrastructure projects such as new runways (and other costs).[35] In general, the CAA considers that the principles and approach outlined in the CAA's mandate for CE at Gatwick and for Heathrow could be adopted going forward.[36]

7.12 While extending the CE arrangements into Q6 was not envisaged at the time, reliance on the overall principles and aims of CE appears reasonable. In particular, the CAA considers that there may be a good case for seeking to enhance the role for airport operator (or other) / airline engagement in shaping and informing the outcome where any costs are to be added to a RAB. If such an approach was adopted, it would be important that CE discussions focus on the interests of present and future passengers and this is the key prism through which discussions are based.

7.13 The CAA recognises that airline involvement in airport expansion proposals that have been submitted to the Commission for consideration may reflect an outcome any such process and this suggests that there may be scope for this to be addressed going forward, including as part of any Government assessment.

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35 The CAA recognises that if HH's option is selected then HH may sell its proposal to HAL or it may look to develop its proposal itself. In either of these scenarios, the CAA would expect CE to occur.

36 CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Heathrow and
CAA, Airports' economic regulation review for Q6, CAA Mandate for Constructive Engagement at Gatwick, available at http://www.caa.co.uk/Commercial-Industry/Airports/Economic-regulation/.

7.14 In its July 2011 consultation document, the CAA set out six operating principles that it considered should form the basic framework for the formal CE process for Q6. These principles were again outlined in April 2012 and a slightly modified version (reflecting the different issue on hand) is outlined for consideration below (see Figure 7.1 below).

Figure 7.1: Potential CE operating principles

Principle	Interpretation
Accountability	A clear and agreed governance framework setting out the expected accountabilities.
	This includes the CAA giving a clear, upfront mandate to the parties.
Transparency	Information provided for CE should be relevant and timely.
	The scope of CE should be widened to include discussion on all items relevant to proposed new runway capacity, including operational expenditure and commercial revenues.
Collaboration	All parties should participate constructively and in good faith. Airlines should be involved fully in the development of plans for airport expansion.
	CE should not be seen as a zero-sum game and should allow opportunities for outcomes such as "gain sharing" between airports and airlines.
"No surprises"	Trust is undermined if either side suspects the other is simply playing games.
	To avoid airlines raising concerns over airports exploiting information asymmetry, the airport should operate on the basis of "no surprises" and should agree when they will provide updates to key data and information.
	All parties should work on the presumption that data submitted to the CAA after formal deadlines will not generally be taken into account, especially if it could have been generated at an earlier date and has not been shared with other parties.
Dispute resolution	The parties should agree clear and efficient dispute resolution procedures.
	The CAA does not wish to replace or interfere with the existing dispute resolution mechanisms at each airport.
	The parties may also engage an independent facilitator and the CAA is happy to work with such a person.
Role of the CAA	Although CE should not be regulator-led, where appropriate, the CAA will step-in.

Source: CAA

7.15 Assuming that the operating principles outlined below are adopted and that a round of CE was completed, the outputs of this process could then be assessed. This could be done via the CAA, the Independent Fund Surveyors or potentially another approach. If the CAA was involved in this assessment, it could then conclude on the appropriate use of the input from the CE process in light of its statutory duties. Subject to the CAA's consideration of the extent to which the results from any CE reflected the interests of passengers, cargo owners and airlines not directly represented in such consultation, the CAA could then determine how the agreed outcomes could be added to a RAB.

7.16 The CAA could also place weight on any partial agreements made, for example where airport operators (or other) and airlines may have converged on proposals for the investment but have not reached full agreement on the projected costs. If such an approach was adopted, the CAA would need to form its own judgment and set out its own proposals, for consultation, which it considers would best met its statutory duties.

7.17 Extending the role of CE in Q6, and possibly beyond, would be consistent with a light touch regulatory approach that allows industry to decide on the most appropriate outcome, with intervention only being required where absolutely necessary.

Questions	
Q7.2	Do you consider that the CAA's Constructive Engagement (CE) operating principles should be continued and extended to cover airport expansion costs? Do you consider that extending the role of CE is consistent with a light touch regulatory approach?
Q7.3	Do you consider that Constructive Engagement should be used as part of the cost development process and when should it occur?
Q7.4	Do you consider that the Government or the Airports Commission should ensure that Constructive Engagement occurs as part of any assessment process (particularly if any costs are not going to be subject to a detailed review by the CAA)?
Q7.5	Do you consider that the Constructive Engagement mandate outlined by the CAA provide sufficient guidance? If not, what additional information would be needed?

What the CAA has said on runway costs in the Q6 final decision

Gatwick

7.18 In the Q6 final decision for Gatwick the CAA indicated that, for reasons stated in its initial and final proposals, it would not allow G2 project costs to be added to the RAB.[37] In particular, in the Initial Proposals, the CAA noted the approach that it had taken on the costs of the BAA input to the 2003 Government White Paper. At the time of the Q4 review, the CAA did not allow initial, or preliminary expenditure in the price controls as the Government had not published the White Paper and there was no way of knowing which new runway developments the Government would support. It was only after the Government decision was made, and subject to a number of criteria, that the CAA allowed the costs to be added to the RAB. Given this, and the potential commercial gains to GAL from the development of a second runway, the CAA indicated that it was not minded to allow the input to the Commission to be added to the RAB. On cost of safeguarding, the CAA noted that the costs forecast by GAL appeared excessive for something which is essentially protecting the alignment of a runway.

7.19 The CAA also noted that safeguarding costs are treated as opex in the statutory accounts and that it was not minded to include the costs of the second runway in the initial projections without further evidence from GAL that this was in the passengers' interest.[38]

7.20 In the notice of the proposed licence, the CAA explained that it had moved away from a traditional RAB-based approach and accepted airlines' arguments that the potential costs of a second runway could increase their charges significantly and therefore GAL should not be able unilaterally to pass those costs on to users without any right of challenge from either the CAA or the airlines. The CAA therefore concluded that the bulk of the planning and development costs should only be added to charges through a licence modification under

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37 CAA, Economic regulation at Gatwick from April 2014: Notice granting the licence, CAP 1152, available at: http://caa.co.uk/cap1152.

38 CAA, Economic regulation at Gatwick from April 2014: initial proposals, CAP 1029, available at: http://www.caa.co.uk/cap1029, p.90.

section 22[39] of the Act made by the CAA, thus giving airlines and GAL the right of appeal to the CMA.[40]

7.21 The CAA did however allow for the recovery of costs of up to £10 million per year (subject to following CAA policy). The CAA considers this to be a reasonable amount to allow GAL flexibility, particularly in the early stages of development of the second runway, without having to seek a series of section 22 modifications for smaller amounts.[41]

7.22 The CAA also noted that it would consult on and publish guidance on the treatment of the costs of the second runway. Such guidance could include more detailed requirements for early engagement with stakeholders on design and costs.[42] This paper is the first stage in developing this policy guidance.

Heathrow

7.23 In the Q6 notice granting the licence, the CAA noted HAL's request regarding the recovery of costs for expansion following recommendations by the Commission and Government support but also noted that HAL had not made any previous representations on this issue. The CAA acknowledged that the provisions for the recovery of second runway costs set out in GAL's commitments were for development costs and would only apply to costs incurred after the Commission had made its recommendations and the Government had indicated its support for the project.[43]

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39 A section 22 of the Act explains the process that the CAA must follow if it wishes to modify licence conditions and/ or the licence area. Before modifying a licence the CAA must (a) publish a notice in relation to the proposed modification (b) send a copy of the notice to the persons listed in subsection; and (c) consider any representations about the proposed modification that are made in the period specified in the notice (and not withdrawn).

40 CAA, Economic regulation at Gatwick from April 2014: notice of the proposed licence, CAP 1139, available at: http://www.caa.co.uk/cap1139, p.37.

41 CAA, Economic regulation at Gatwick from April 2014: notice of the proposed licence, CAP 1139, p.38.

42 CAA, Economic regulation at Gatwick from April 2014: notice of the proposed licence, CAP 1139, p.39.

43 CAA, Economic regulation at Heathrow from April 2014: Notice granting the licence, CAP 1151, available at: http://www.caa.co.uk/CAP1151, pp.36-37.

7.24 The CAA also noted that while it was willing to look at incorporating similar provisions into HAL's licence, given where the process had reached, any changes to the licence at that stage would be a significant change requiring the CAA to consult other stakeholders. The CAA therefore considered that any such change could be achieved through a modification under section 22 of the Act once the licence was in force. In addition, the CAA was intending to consult on its treatment of additional runway costs for GAL once the licence was in force, and that it would consider HAL's request further at that time.[44]

7.25 The CAA did not make any particular mention of how any potential costs incurred by HH would be treated, particularly if HAL ended up buying the HH concept. However, given the continuation of a RAB-based approach, in the event that the expenditure was efficiently incurred, there would be an assumption that it would be added to HAL's RAB.

7.26 Importantly, however, the costs do end up being factored into a regulatory decision, ensuring equitable treatment will be important.

Recovery of runway capacity expansion cost triggers

7.27 The CAA has identified a number possible triggers that could be used as the point from which the recovery of any incurred efficient runway capacity expansion costs could start:

- **Trigger 1**: a recommendation by the Commission to the Government;
- **Trigger 2**: a Government decision to support one particular option. This was the approach which the CAA adopted in response to the 2003 Air Transport White Paper;
- **Trigger 3**: the granting of planning permission for the capacity expansion;

[44] CAA, Economic regulation at Heathrow from April 2014: Notice granting the licence, CAP 1151, pp.36-37.

- **Trigger 4**: the date of the first flight which uses the extra capacity (this would effectively mean that the CAA would not be using an AICC approach but would be adopting an AIO approach (see chapter 6); and
- **Trigger 5**: another date, as agreed between airlines and the airport operator, possibly through CE.

7.28 Given the value and importance of CE (see below), the CAA considers that **Trigger 5** may represent the most appropriate point from which costs could start to be recovered. It would represent a market agreed decision and would remove the need for a regulatory decision.

7.29 The CAA also considers that **Trigger 4** may be an appropriate trigger as at this point the infrastructure has clearly been developed and is starting to be used. However, as outlined in chapter 3, there may be divergent views on the appropriateness of this point as a trigger.

7.30 **Trigger 3** may also be an appropriate trigger, as the granting of planning permission suggests that not only will the project proceed but that the scope for the project will be known with a reasonable degree of accuracy.

7.31 Given the high levels of uncertainty as to whether any airport expansion will proceed and the nature of that expansion at **Trigger 1 and 2**, these points may not be appropriate. Agreeing to any costs at this stage would be highly speculative and may not be in the best interests of users, including passengers.

7.32 As mentioned in chapter 4, the CAA has also considered the points at which the recovery of capacity expansion costs incurred by an airport operator could be recovered in the event that the Government reversed any position on capacity expansion. In particular, the CAA considers that the potential points at which the Government could intervene (to help mitigate political risk) include:

- the granting of planning permission for the capacity expansion;
- the commencement of building/excavation work at the airport; or
- another date, as determined by the Government.

Questions	

Q7.6	Do you consider that the cost recovery triggers outlined by the CAA are reasonable? Are there any other triggers that the CAA should consider?

Options for the recovery of runway capacity expansion

7.33 The CAA has considered five options by which runway expansion costs incurred by airport operators could start to be recovered, following a trigger point (see earlier discussion) being reached. However, the CAA recognises that there may be other options. The CAA also recognises that some aspects of its options may overlap. Going forward, the CAA will be looking to narrow down and refine its options:

- **Option 1:** only allowing a pass through of a certain level of costs (e.g. £10 million) each year (as is currently the case for GAL), with a requirement for CE for amounts greater than the set level;
- **Option 2 (a):** setting a cap, that is linked to **agreed timings**, on the efficient costs associated with **specific projects** that could be added to a RAB;
- **Option 2 (b):** setting a cap (potentially greater than that outlined in any current licence) on the efficient costs associated with specific projects that could be added to a RAB;
- **Option 3:** only allowing the amount outlined in a licence to be added to a RAB;
- **Option 4:** For GAL, only allowing the costs outlined in the relevant licence to be recovered in Q6, with all other costs to be carried by a special purpose vehicle (SPV) OR, for HAL, only allowing it to recover a set amount in Q6, with all other costs to be carried by a SPV; or
- **Option 5:** HAL buying the Heathrow Hub Limited's runway capacity design concept (HH) and the CAA allowing all/some/none of those costs to be recovered.[45]

7.34 Importantly, these options assume that the CAA will be involved in approving any plans that are developed and implicitly assume that the costs will be initially borne by the airport operators, be it directly or

[45] While Heathrow Hub Limited's plans involve development at Heathrow, the business is not part of HAL and it has the intellectual rights to its proposal. Thus, in the event that Heathrow Hub Limited is selected as the appropriate option to go forward, HAL will, in all likelihood, need to buy HH from Heathrow Hub Limited if it is to proceed.

through the purchase of the HH concept (the price of which will include the costs that HH may have incurred). The CAA has not developed an option by which HH is compensated directly for any efficient costs that it incurs in Q6 should it proceed with developing its proposal itself. In the event that HH does wish to proceed with developing its proposal the CAA would need to consider this issue more closely.

Option 1 – a pass through of a set, annual level of costs, with CE for amounts greater than the set level

7.35 Under this option, the CAA would allow the automatic pass through of any costs under a set annual threshold (subject to following CAA policy). The CAA would look to set this threshold at a level that would allow the airport operator flexibility without having to seek a series of section 22 modifications for smaller amounts.

7.36 For any amounts greater than this threshold, the CAA would expect an airport operator to be able to demonstrate that its expenditure was in the best interest of consumers. The CAA could scrutinise this through CE among other tools.

7.37 Some of the high level possible disadvantages and advantages of this option are set out below:

Disadvantages:

- It is unclear how the CAA would determine the level of the threshold, which could require the exercise of regulatory discretion.
- This approach may be intrusive and could impose a significant amount of regulatory burden on both the airport operator and the CAA. In particular, it requires the CAA to determine the appropriate thresholds and assess the reasonableness of any costs incurred each year. As such, there are risks that the CAA sets an inappropriate threshold and any assessment that it undertakes would represent an ex post assessment of any costs incurred.
- It could undermine the work that the CAA has undertaken to date with CE, although this level of risk is the same as that which occurred in the CE that informed the Q6 decision.

- It is an approach that is arguably more applicable to GAL, under the LBC approach, than HAL, which is subject to RAB-based regulation. However, as noted in chapter 4, there may be a number of theoretical and practical issues associated with having LBC and a RAB-based approach working in parallel at the same airport.

Benefits:

- It ensures strong oversight of costs incurred.
- As the bulk of the capex costs associated with new capacity may only be incurred after greater certainty has been established, this option potentially reduces unnecessary burdens being placed on the airport operator and the airlines.
- If the threshold level is set at an appropriate level but is exceeded, it encourages information sharing and agreement between the airport operator and the airlines.

Option 2 (a) – a cap is set for specific costs and timings

7.38 Under this option, the CAA would set a cap on the costs that could be added to a RAB, based on information submitted by airport operators, for the overall costs that an airport operator expects to incur. As part of this, the airport operator would be required to provide a detailed project plan with timings as well as details on the outcomes of CE and any external reviews.

7.39 The CAA would then need to asses this information to determine if the proposed costs and timings were reasonable. Assuming this approach was adopted, an airport operator that overspends or is delayed in delivering identified projects would need to take responsibility for any associated costs and would not be allowed to add to the RAB any costs associated with overspending or delays.

7.40 Some of the high level possible disadvantages and advantages of this option are outlined below:

Disadvantages:

- This approach requires a significant amount of intervention from the CAA, with associated administrative burdens.

- It assumes that plans that are submitted by an airport operator can be adhered to – this may encourage the airport operator to be cautious with respect to its plans and as a result development of any additional capacity may be slow (to avoid overextending itself). However, where there is pent-up demand the scope to start generating an additional income stream sooner, rather than later, may offset any concern with overextension.
- It removes flexibility for airport operators to change plans to reflect changing conditions and priorities.
- This approach could increase the perceived risk associated with the project, so the cost of obtaining the necessary finance may be greater than would otherwise be the case. This risk could also jeopardise the delivery of any expansion, which could create tension between the CAA and Government.

Benefits:

- The use of CE encourages the airport operator to engage with stakeholders on the design and costs of developments.
- It places a clear and strong incentive on the airport operator to manage timings and control costs associated with any capacity expansion.

Option 2 (b) – a cap is set for specific costs

7.41 Similar to Option 2 (a), under this option the CAA would set a cap on the costs that could be added to the RAB, based on information submitted by airport operators, for the overall costs that an airport operator expects to incur. While the airport operator would provide a detailed project plan (with timings), the CAA would not hold the airport operator to those timings. Details on the outcomes of CE and any external reviews would also need to be submitted to the CAA.

7.42 Assuming this option was adopted, an airport operator that overspends on agreed projects would need to absorb any associated costs and take on the appropriate risk.

7.43 Some of the high level possible disadvantages and benefits of this option are outlined below:

Disadvantages:

- It assumes that the costs outlined in plans can be adhered to, which may encourage the airport operators to submit plans that are risk averse. As a result, the development of any additional capacity may occur quite slowly, to avoid the airport operator overextending itself and potentially incurring costs associated with any overspend. However, where there is pent-up demand the scope to start generating additional income streams sooner, rather than later, may offset this concern.
- It requires a significant amount of intervention from the CAA, with associated administrative burdens.
- The perceived risk associated with this project could be increased (although it is less risky than Option 2 (a)). The cost of obtaining the necessary finance may therefore be greater than would otherwise be the case. This risk could also jeopardise the delivery of any expansion, which could create tension between the CAA and Government.

Benefits:

- The use of CE encourages the airport operator to engage with stakeholders on the design and costs of developments.
- It places a clear incentive on the airport operator to control costs incurred in Q6.
- It provides some flexibility (particularly relative to Option 2 (a)) for airport operators to change the timings of its plans to reflect changing conditions.

Option 3 – only allow the amount outlined in a licence to be passed through with any other (efficient) costs to be recouped in later periods

7.44 Under this option, the CAA would only allow the amount specified in the licence (for GAL this is currently £10 million per year) to be passed through in Q6. Any additional costs on top of this would, if deemed efficient, would be added to a RAB in the next appropriate regulatory period.

7.45 Some of the high level possible disadvantages and advantages of this option are outlined below:

Disadvantages:

- It may delay progress if there is a limit to the costs that can be incurred in Q6. That is, airport operators may be unwilling to carry any costs incurred in Q6 into later regulatory control periods. As such, an airport operator may wait until after Q6 before expending significant resources, despite it potentially being in a position to start things earlier.
- It may increase the perceived risk associated with the project, so the cost of obtaining the necessary finance may be greater than would otherwise be the case. This risk could also jeopardise the delivery of any expansion, which could create tension between the CAA and Government.
- It is an approach that is arguably more applicable to GAL, with its LBC arrangement, than HAL, which is subject to RAB- based regulation.

Benefits:

- It places a clear incentive on the airport operator to manage the Q6 costs outlined in the licence.
- It provides the airport operator with flexibility as to how and when it wishes to incur the costs associated with the capacity expansion.

Option 4 – use of a special purpose vehicle for costs in excess of any amount outlined in a licence

7.46 This option would allow the costs specified in the licence to be passed through or added to a RAB in Q6 but further capacity expansion costs would need to be carried by an SPV.

7.47 Some of the high level possible disadvantages and advantages of this option are outlined below:

Disadvantages:

- As the use of a SPV may not have been fully considered in the design of the Act, legislative change may be required (see, for example, the Thames Tideway project in appendix B), which can be a timely and resource intensive process. In addition, there is limited recent UK precedent as to too how this may work in practice. The most recent UK example of this, Thames Tideway, is, for example, still in relatively early stages.

- There can be issues associated with the SPV's transparency and governance that may need to be addressed.
- There may be a variety of legal issues that may need to be addressed, not least whether or not a licensed SPV could charge anything for infrastructure that it builds (as it might be difficult to define it as an airport operator).

Benefits:

- It looks to address a number of risks associated with such a project, including:
  - scale risk, arising from the size of the project in the context of the whole of the airport operator's business;
  - construction risk, arising from the nature of the project's construction works in the context of the works usually undertaken by the airport operator;
  - management risk, arising from the type and scale of management resource necessary to manage the project in the context of the management resources necessary to manage the rest of the airport operator's business; and
  - regulatory risk, arising from the duration of the project in the context of the usual duration of capital works in the airport operator's business.

Option 5 – HAL buying a runway design concept

7.48 In the event that Heathrow Hub Limited's proposal is selected as the appropriate option to take forward, the CAA will need to consider the most appropriate way to deal with any costs that Heathrow Hub Limited may have incurred to date. This situation is further complicated as it is unknown whether Heathrow Hub Limited would sell HH to HAL or if it would look to take its concept through to completion. In the event that Heathrow Hub Limited did sell HH to HAL, the CAA would need to consider how to account for this. Possible ways include:

- an automatic pass-through of the costs that HAL incurred to purchase HH into a RAB;

- an assessment of the efficient costs associated with HAL's purchase, with only the efficient amount permitted to be added to a RAB; and
- not allowing the costs of a purchase of this concept to be added to a RAB.

7.49 The CAA has not examined all the costs and benefits of each of the scenarios listed above in detail but notes that:

- in a competitive market, where a business failed to anticipate and protect an idea directly linked to its business, it would be the business owner (shareholders) and not customers (users) who would ,in the first instance, bear the cost of the lack of foresight;
- only allowing some of the costs to be added to the RAB would ensure that there was an incentive on HAL to engage in robust negotiations with Heathrow Hub Limited, which would help ensure that any costs that are incurred are efficient (recognising that the above bullet point suggests that any expenditure could be deemed inefficient); and
- determining the efficient costs of a design concept could be difficult, and the CAA may have to draw on expert advice to facilitate such an assessment.

Questions	
Q7.7	Do you consider that the options outlined by the CAA on the recovery of costs before there is certainty on whether or not capacity expansion will occur (and where it will be located) are appropriate?
Q7.8	Why might each of these options identified by the CAA work/not work? What do you consider are the most appropriate options for the recovery of costs?
Q7.9	Do you consider that there are alternative options for the recovery of costs that the CAA has not highlighted which would be useful for it to consider?

CHAPTER 8

Slot allocation

Introduction

8.1 Additional aviation capacity will make new slots available to airlines currently serving London and airlines looking to serve London. This chapter outlines the European slot regulation (general rules, allocation of new capacity, slot trading, and potential changes) and possible regulatory treatments on reconciling slot allocation and contribution of new capacity.

European slot regulation

General rules

8.2 Slot allocation at UK airports is governed by the European Union (EU) airport slot regulation[46] (the Slot Regulation) and associated UK implementing regulations[47]. According to the Slot Regulation, a slot is a right to use a bundle of airport facilities (runway, stands, terminals) for landing or taking off at a specific date and time. The objective of slot allocation is to ensure the access of air carriers to congested airports following the principles of neutrality, transparency and non-discrimination.

8.3 Under the Slot Regulation, slots only exist at 'coordinated airports', which have insufficient capacity to meet actual or planned airline operations. At these airports, an independent national 'coordinator' must be appointed to carry out slot allocation. In the UK, the Secretary of State for Transport has designated Heathrow and Gatwick as coordinated airports, and approved the appointment of Airport Coordination Limited (ACL) as coordinator at these and other UK coordinated airports.[48]

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46 Regulation EEC 95/93 as amended.

47 The Airport Slot Allocation Regulations 2006.

48 In the event that a new airport is shortlisted by the European Commission and subsequently designated by the Secretary of State as a coordinated airport, slots would have to be allocated in accordance with the EU Slot Regulation.

8.4 Slots are allocated by ACL twice a year, for the summer season (broadly April to October) and the winter season. The number of slots available to be allocated each season is determined by discussions between the airport operator, airlines, air traffic control providers and ACL. It is important to note that in the UK the airport operator (not the Government) makes the final declaration of capacity.

8.5 The Slot Regulation allow an air carrier that has operated an allocated slot series for at least 80% of the time during the summer/winter season to be allocated the same slots in the equivalent season the following year ('grandfather rights'), subject to allowance for unforeseeable and unavoidable circumstances.

Allocation of new capacity

8.6 Slots which are not subject to grandfather rights, including new slots created by new airport capacity, are placed in a 'slot pool'. New entrant airlines have priority for 50% of these slots. A 'new entrant' is defined as follows:

- an airline that would have fewer than five slots (two return services at most) at the airport on the day if the pool slots requested were allocated to it; or
- an airline requesting slots for a non-stop intra-EU scheduled passenger service where at most two other airlines operate the same service between the same airports or airport systems[49] on the day, and where the airline would hold fewer than five slots at the airport on the day for that service if the slots requested were allocated to it; or
- an airline requesting slots for a non-stop scheduled passenger service between that airport and a regional airport that no other airlines operate on the day, and would have fewer than five slots at the airport on the day for that service if the slots requested were allocated to it.

8.7 However, an air carrier holding more than 5% of the total slots available on the day in question at a particular airport, or more than 4% of the total slots available on the day in question in an airport

[49] ACL regard the London system as Heathrow, Gatwick and Stansted although the Regulation containing the formal definition has now been repealed.

system of which that airport forms part, is not considered as a new entrant at that airport.

8.8 If new entrants do not apply for all 50% of slots for which they have priority then the balance of these slots, along with the other 50% of pool slots, can be allocated to any airlines. Should new entrants apply for more than 50% of pool slots, ACL would need to establish priorities amongst these applications. In carrying out the allocation, where there are competing bids from airlines ACL must give priority to services with year-round operation.

8.9 ACL also considers a range of other criteria in allocating slots for which there are competing bids, including effective period of operation, the size and type of market, competition, worldwide scheduling constraints, frequency of operations and local guidelines as agreed by a committee of airlines using the airport, the airport operator, air traffic control providers and other aviation users.[50]

Slot trading

8.10 In addition to the allocation processes outlined above, the Slot Regulation also allows airlines to: re-time a slot; change the aircraft type or route for which they use an allocated slot; transfer slots between airlines within a group or as part of the acquisition or takeover of an airline by another; and exchange slots with other airlines. In all circumstances changes need to be approved by the coordinator, essentially to ensure they do not prejudice airport operations. Pool slots allocated to new entrants cannot be transferred or exchanged for two years.

8.11 At Heathrow and to a lesser extent Gatwick, some slot exchanges between airlines have been accompanied by financial and other considerations in a 'secondary market' for slots. The secondary market is an important way for airlines to increase their presence at airports such as Heathrow, given that the airport is effectively operating at full capacity (the 480,000 annual air traffic movements set as a condition of Terminal 5 planning approval) and only a very small

[50] ACL, UK slot allocation process and criteria, available at: http://www.acl-uk.org/UserFiles/File/UK%20Slot%20Allocation%20Process%20and%20Criteria%20V7.pdf (accessed 30 May 2014).

number of pool slots are available for allocation. For the Summer 2014 season (peak week), ACL allocated 26 pool slots per week at Heathrow, less than 0.3% of the 9,564 weekly slots allocated overall. Capacity constraints at Heathrow have driven up the price that airlines are prepared to pay for slots on the secondary market.

Potential changes to the Slot Regulation in future

8.12 Changes to the Slot Regulation were proposed in December 2011 as part of the European Commission's 'Better Airports Package'.[51] These changes can only become law once they have been discussed and approved by the Council of the EU (i.e. Member States) and the European Parliament. Those discussions are currently in abeyance and it is not clear whether or when they will progress. If they do progress, the discussions that have taken place so far suggest that the Slot Regulation will not change radically, and that the key principles of allocation as they operate in the UK are likely to remain.

8.13 The CAA recognises the possibility that these rules will change prior to any new capacity becoming operational. In terms of rules affecting how any new capacity would be allocated at a coordinated airport in the UK[52], the main change would be the 'new entrant' rule, which would be broadened so that more airlines would qualify. The European Commission's proposal makes a number of detailed changes, the most significant being that:

8.14 It is easier to qualify as a new entrant on an intra-EU route, because:

- references to 'airport system' would be deleted, thus widening the possibilities for an airline already operating from another London airport to qualify;

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51 European Commission, 'Mobility and Transport', available at: http://ec.europa.eu/transport/modes/air/airports/ (accessed May 2014).

52 In terms of new entry more generally, some of the European Commission's other proposed changes around slot utilisation and enforcement, if they were to become law, could potentially increase the number of allocated slots being returned to the pool. The European Commission's proposals also explicitly permit the secondary trading of slots, but this would be unlikely to have an impact at UK airports, since this simply formalises the European Commission's acceptance that trading is consistent with EU law.

- an airline only ceases to be a new entrant when it reaches four return flights on that day on the airport-pair concerned (i.e. fewer than nine slots), compared with the current two (i.e. fewer than five);
- among requests from new entrants, preference would be given to airlines qualifying for new entrant status on intra-EU routes. Currently this preference for intra-EU routes only applies if the airline also satisfies the first criterion, i.e. that it holds fewer than five slots at the airport on that day, including those applied for; and

- The total slot holding threshold that disqualifies an airline as a new entrant would be increased from 5% of slots at the airport to 10%, and deleted altogether in respect of the airport system.

8.15 As noted above, these remain only proposals, and even if they do progress into law, some proposals may be amended. In particular, the more favourable criteria for intra-EU routes have been challenged by amendments from the European Parliament.[53]

Reconciling slot allocation and contribution of new capacity

8.16 The CAA noted the discussion about potential changes to the Slot Regulation in the Commission's interim report. While it might be helpful in raising finance for the new capacity if the rules can be modified to recognise an incumbent's potential contribution relative to a new entrant, the CAA agrees with the Commission's opinion that it is unlikely to be in line with the Slot Regulation.

8.17 The CAA recognises that the Slot Regulation may not be conducive to financing new capacity, especially if the incumbent airlines perceive a higher risk in their future operations and therefore are less willing to contribute to the construction of new capacity. Accordingly, the CAA is

[53] Progress with the dossier can be viewed at:
http://ec.europa.eu/prelex/detail_dossier_real.cfm?CL=en&DosId=201119#420745
The European Parliament amendments can be viewed at:
http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2012-495
A report of progress in the Council of the EU can be viewed at:
http://europa.eu/rapid/press-release_PRES-12-447_en.htm?locale=en,
which contains a link to the Council's 'General Approach' amended text.

considering various possible mechanisms to establish linkages between financing of the new capacity and the subsequent benefits of new slots and/or associated returns, possibly in the form of payment by those who secure new slots to those who contributed.

Questions	
Q8.1	What do you consider would be the effect of changes, as outlined by the CAA, to the Slot Regulation?
Q8.2	Do you consider that the Slot Regulation pose challenges to the financing of any capacity expansion?
Q8.3	Do you consider that the current slot allocation process impacts on their potential willingness to pay for any capacity expansion?
Q8.4	Do you think that the CAA or the airport operator(s) or both should find some ways to link financing of new capacity and benefits of new slots? If so, how do you consider that such a mechanism could work?

CHAPTER 9

The CAA's statutory duties

Introduction

9.1 This chapter sets out the implications which capacity expansion may have for the CAA fulfilling its statutory duties.

The CAA fulfilling its statutory duties

9.2 The Act stipulates that the CAA has a primary duty to users of air transport services (i.e. passengers and cargo owners). Other general duties are outlined in the section on 'statutory duties' in chapter 1. These statutory duties are a main influence on how the CAA behaves.

9.3 The CAA identified the following strategic objectives[54] to help it fulfil these duties:

- to enhance aviation safety performance;
- to improve choice and value for aviation consumers;
- to improve environmental performance;
- to ensure civil aviation authorities operating in the UK maintain security arrangements which address the risk to their operations and the public; and
- to ensure the CAA is an efficient and effective organisation which meets better regulation principles and gives value for money.

9.4 Consumers are at the heart of the CAA's work. Accordingly, the CAA has set up a Consumer Panel to help it better understand consumers' concerns and needs, and to ensure that the consumer interests are properly considered. In addition, the CAA encourages stakeholders, through CE (see chapter 7), to discuss and agree on various issues in reaching a regulatory settlement to consumers' benefit.

[54] CAA, Strategic Plan 2011-2016, available at: www.caa.co.uk/cap1092.

9.5 Promoting the interests of users is a regular feature in the UK regulatory framework. This approach has provided a stable regulatory environment for investors, and has a proven track record of delivering essential infrastructure investments to benefit the economy.

Intervening only when appropriate

9.6 The CAA considers that competition can ensure good results for consumers and that economic regulation of airport operators is only required when competition is not sufficiently strong to further the interests of passengers.

9.7 To determine whether or not the CAA needs to intervene in the relevant market(s) the CAA needs to assess:

- if competition is (or is not) sufficiently strong to further the interests of passengers;
- if regulation by a specific licence for the airport operator is a better response to the risk of it unfairly exploiting its market power than the CAA relying on its enforcement of general competition law; and
- if the benefits of continued economic regulation of the airport operator outweigh the adverse effects.

9.8 Importantly, if SMP is not found, the CAA would no longer be able to regulate the relevant airport operator. However, if SMP is found, the CAA would need to determine the most effective, passenger-focused and proportionate form of regulation.

Ensuring a passenger focused regulatory approach

9.9 Assuming that SMP is found, to ensure that the regulatory approach the CAA applies to the airport operator that is undertaking additional runway capacity continues to be passenger focused, the CAA can adopt three key elements.

- Take account of the alignment that often occurs between the interests of passengers and the commercial interests of airlines in the specific context of the airport operator's provision of additional runway capacity and services. At the same time, the CAA would need to be alert to identify cases where this alignment is only partial or is absent. Thus, effective use can be made of a wide range of passenger insights, research and intelligence, including airlines' own information. This could be supported by a CE process.

- Undertake an independent process of assurance and validation for the process and the costs proposed for the additional runway capacity. Among several factors, the CAA could be influenced by commercial discussions between the airport operator (including any consultants it may have engaged), the airport operator and airlines (to ensure they focus on passenger outcomes and priorities), passengers' priorities, complaints data, and the views of the CAA's Consumer Panel – a 'critical friend' – to ensure that passengers' priorities have been considered in the CAA's thinking.
- Continue to work with stakeholders to improve service provider collaboration at the airports and the transparency of information to passengers.

Going forward

9.10 The Act is relatively new. In December 2012, the Act came into force after a comprehensive legislative process. In early 2014, the first airport licences at Heathrow and Gatwick for Q6 were issued.

9.11 The CAA considers that the Act, as it is currently drafted, has given clear direction on how the CAA should undertake its work, and has given it the necessary flexibility to do this effectively. Also, the Act provides sufficient scope for the CAA to address issues such as additional runway capacity. The CAA does, however, recognise that these views may not be universally held and welcomes stakeholders' views on whether or not they consider any part of the Act presents possible barriers to investment, including that associated with additional runway capacity.

Question	
Q9.1	Do you consider that any part of the Act presents barriers to investment, including with respect to any potential capacity expansion?

CHAPTER 10

Questions raised in the discussion paper

Questions	Chapter 2
Q2.1	Do you consider that new runway capacity in the south-east of England would change the competitive conditions in the south-east of England? If so, what are the likely changes in those conditions? Would this be affected if any new capacity was released in a staged manner?
Q2.2	What do you consider are the implications for economic regulation if an existing airport operator faces terminal competition? What factors (if any) would need to be re-considered?
Q2.3	Do you consider that economic regulation (RAB-based or other) is important to the financing the investment in new runway capacity, by ether lowering the cost of capital or increasing the availability of funds?

Questions	Chapter 3
Q3.1	What do you consider are the risks/benefits of the CAA undertaking a market power determination in advance of a material change in circumstances? Do these risk/benefits change over time?
Q3.2	Do you consider that there are particular milestones that, if passed, suggest that the CAA should undertake a market power determination in advance of a material change in circumstances?
Q3.3	If the CAA does not undertake a market power determination in advance of a material change in circumstances, would it be helpful for the CAA to publish relevant information? If so, what information do you consider would be useful for the CAA to release?
Q3.4	If the CAA did release information before any new capacity was available, and there was a high level uncertainty with that information, would you find that information useful?

Questions	Chapter 4
Q4.1	Do you considers that risk be allocated to those parties that are best able to manage it?
Q4.2	If risk is perceived as too high, do you consider that the CAA should look to try and address those risks?
Q4.3	Do you consider that the CAA's approach to mitigate, attribute and remunerate risk is appropriate? Do stakeholders consider that there are other options?
Q4.4	Are the risks that the CAA has indentified the key risks that you are concerned about? Are some of these risks more important than others?
Q4.5	Do you consider the CAA's proposed risk mitigation strategies are appropriate? What are the costs and benefits of these strategies? Is there anything else the CAA could do to help manage risk?
Q4.6	Do you consider that the Government has a role in the mitigation of risk, particularly political risk?
Q4.7	Do you consider there would be difficulties for an airport operator in raising the necessary finance to undertake airport capacity expansion? If so, what are these difficulties?
Q4.8	Do you consider that Government involvement would assist an airport operator gaining the necessary finance for capacity expansion?
Q4.9	Do you consider that the risks associated with undertaking a runway expansion project are significantly different from the ongoing (day-to-day) risks faced by an airport operator?
Q4.10	Do you consider that economic regulation (RAB-based or other) is important to the financing the investment in new runway capacity, by ether lowering the cost of capital or increasing the availability of funds?
Q4.11	What form of regulation do you consider most appropriate for expanding runway capacity? Do you consider that using two RABs or LBC and a RAB would be appropriate? Are there any other approaches that the CAA should consider? What are the costs and benefits associated with these approaches?
Q4.12	Do you consider that the case studies provide insight into how the CAA should regulate going forward? Is there merit in the CAA considering special purpose vehicles or only allowing the pass through of efficient costs (or additions to the RAB) in a staged manner?
Q4.13	Do you consider there are other case studies that could provide useful insights?

Questions	Chapter 4 (continued)
Q4.14	Do you consider that there is a role for Government in providing financial assistance for any capacity development?
Q4.15	How do you consider the CAA should take into account any Government financial assistance? Are the there any particular concerns/benefits with the approaches that the CAA has outlined?
Q4.16	What do you consider are the costs and benefits of extending the duration of a price control (or elements contained within it)?
Q4.17	What do you consider would be the appropriate duration of a price control (or the elements contained within it)?

Questions	Chapter 5
Q5.1	Do you consider that the generation that is demanding a particular piece of infrastructure should pay for it?
Q5.2	How do you consider that the costs of a large project such as runway expansion could be spread across different generations, that is between existing users (airlines and passengers) and new runway users (airlines and passengers)?
Q5.3	Do inter-generational issues suggest that there should be a role for Government in providing financial assistance to the airport operator undertaking any capacity development?
Q5.4	Do you consider that airline business model should be taken into account when considering the potential allocation of airport expansion costs to airlines?
Q5.5	What do you consider are the costs and benefits from adopting a regulatory approach that involves managing costs via assets in the course of construction?
Q5.6	What do you consider are the costs and benefits from adopting a regulatory approach that involves managing costs via assets in operation?
Q5.7	What do you consider are the costs and benefits from adopting a regulatory approach that involves the profiling of revenue?
Q5.8	Are there any addition regulatory approaches that you think the CAA should consider? What are the costs and benefits with those approaches?

Question	Chapter 6
Q6.1	What do you consider are the costs and benefits associated with the four high level approaches to cost recovery that the CAA outlined? Are there alternative high level options that the CAA should be considering?

Questions	Chapter 7
Q7.1	Do you consider that the principles that the CAA has outlined for assessing costs that may arise in Q6 are reasonable? Are there any additional principles (or criteria) that the CAA should consider?
Q7.2	Do you consider that the CAA's Constructive Engagement (CE) operating principles should be continued and extended to cover airport expansion costs? Do you consider that extending the role of CE is consistent with a light touch regulatory approach?
Q7.3	Do you consider that Constructive Engagement should be used as part of the cost development process and when should it occur?
Q7.4	Do you consider that the Government or the Airports Commission should ensure that Constructive Engagement occurs as part of any assessment process (particularly if any costs are not going to be subject to a detailed review by the CAA)?
Q7.5	Do you consider that the Constructive Engagement mandate outlined by the CAA provide sufficient guidance? If not, what additional information would be needed?
Q7.6	Do you consider that the cost recovery triggers outlined by the CAA are reasonable? Are there any other triggers that the CAA should consider?
Q7.7	Do you consider that the options outlined by the CAA on the recovery of costs before there is certainty on whether or not capacity expansion will occur (and where it will be located) are appropriate?
Q7.8	Why might each of these options identified by the CAA work/not work? What do you consider are the most appropriate options for the recovery of costs?
Q7.9	Do you consider that there are alternative options for the recovery of costs that the CAA has not highlighted which would be useful for it to consider?

Question	Chapter 8
Q8.1	What do you consider would be the effect of changes, as outlined by the CAA, to the Slot Regulation?
Q8.2	Do you consider that the Slot Regulation pose challenges to the financing of any capacity expansion?
Q8.3	Do you consider that the current slot allocation process impacts on their potential willingness to pay for any capacity expansion?
Q8.4	Do you think that the CAA or the airport operator(s) or both should find some ways to link financing of new capacity and benefits of new slots? If so, how do you consider that such a mechanism could work?

Question	Chapter 9
Q9.1	Do you consider that any part of the Act presents barriers to investment, including with respect to any potential capacity expansion?

APPENDIX A

Magnitude of forecast costs

A1 This appendix highlights, in tabular form, the costs that HAL, GAL and HH have proposed for their plan for runway expansion. This information is based on the publically available information as well as discussions with HAL, GAL and HH.

Figure A.1 Forecast costs of the shortlisted options

	Q6 costs (£bn)*	Post Q6 costs (£bn)	Total costs (£bn)****	Airport Commission costs (£bn)^
HAL	0.01-0.03	15.57-15.59	15.6	13-18
GAL**	0.2-0.4	7.4-7.6	7.8	13-18
HH***	–	–	12.1	10-13

Source: CAA and HAL, GAL and HH submissions to the Airports Commission

* This information represents indicative costs that were provided by stakeholders in discussions with the CAA (pre May submissions to the Commission).

** GAL has also indicated that there may be a significant step up in costs 2021/2022, although costs may start to be seen in 2018/19.

*** This is HH's Option 1.

**** 2014 prices for HAL and GAL.

^ Taken from 21 March 2014 letter from the Commission to the Transport Select Committee. Represents costs to 2030 and includes surface access costs and allowances for risk and optimism bias.

APPENDIX B

Case studies

Introduction

B1 This appendix considers relevant UK and international case studies for the financing of significant capital projects, which may shed some light on how any airport expansion could be financed. The projects that are considered in this chapter are:

- three UK airports sector specific projects:
  - the subsidisation of the construction and initial operation of Stansted by Heathrow and Gatwick through the system approach of price controls from 1991;
  - the construction of Heathrow's Terminal 5 in Q4; and
  - the project for the sustainable development of Heathrow (PSDH) in Q5
- two international airports sector specific projects
  - the third runway at Hong Kong International Airport (HKIA); and
  - the new terminal at Dublin Airport.
- Thames Tideway;
- Northern Ireland gas networks;
- GB offshore electricity transmission; and
- Regulated third party access arrangements for liquefied natural gas (LNG) facilities in UK.[55]

[55] The CAA has not considered projects such as Crossrail or High Speed 2. The CAA recently considered the appropriate level for HAL's contribution to the Crossrail project in Appendix C of Economic regulation at Heathrow from April 2014: Notice granting the licence, available at: http://www.caa.co.uk/CAP1151.

UK airports sector

B2 In the UK airports sector, the most relevant case studies are:

- the subsidisation of the construction and initial operation of Stansted by Heathrow and Gatwick through the system approach of price controls from 1991;
- the construction of Heathrow's Terminal 5 in Q4; and
- the project for the sustainable development of Heathrow (PSDH) in Q5.

B3 This discussion paper does not consider the abortive construction of the second runway and terminal at Stansted planned during Q5, as the CAA never decided on the appropriate regulatory treatment of this project before it was cancelled by the new Government in 2010.

Stansted and the system approach

B4 The current passenger terminal and associated infrastructure at Stansted was opened in 1991. It was then owned and operated by BAA. The runway had been in place since the Second World War, but the passenger terminal and apron infrastructure was new. The development of the airport was therefore essentially a greenfield project, as the existing airport had handled few passengers. As with the Northern Ireland gas networks, neither BAA nor the CAA envisaged that the project could be profitable in the first few regulatory periods. However, since the Government had decided that a third London airport was required, it set Heathrow and Gatwick's initial Q1 price controls to include an implicit subsidy for Stansted. This was known as the system approach. The CAA continued implementing the system approach in Q2. From Q3, however, the controls were set largely on an individual airport basis.

B5 This may be relevant if, for example, G2 is not economical by itself, but requires subsidisation by Heathrow passengers. However, changes in circumstances since the 1990s might make a system approach more difficult to implement as:

- Heathrow and Gatwick are now under separate ownership, while in the early 1990s BAA owned all three large London airports. This means that one airport is less likely to accept the cross-subsidisation of another;

- it is unclear whether a system approach would be consistent with EU legislation; and
- London airports are expected to compete with each other to some extent. Imposing a levy on one for the development of another could distort the market, and possibly be challenged under competition law.

Terminal 5

B6 The fifth terminal at Heathrow was constructed on the site of the Perry Oaks sewage works approximately between 2002 and 2008, at a cost of £4.6 billion in 2008 prices, approximately equal to Heathrow's existing RAB. The expenditure was added to the RAB, and subjected to depreciation, as with any other item of capex. However, while the treatment of the expenditure was not innovative, two features of the Q4 settlement on Terminal 5 are worth considering here:

- to moderate the increase in prices during Q4, the CC in its Q4 report decided to defer £300 million of revenue to Q5. BAA's projections showed (incorrectly) that prices would fall during Q5, so the CC considered that airlines could better fund these revenues if they were deferred. The price profile was set to ensure that BAA and the airlines would be indifferent, in net present value terms, to the delay of the expenditure; and
- to incentivise BAA to open Terminal 5 on time and to reduce the cashflow benefit that it received from delaying completion, capex triggers on individual components of the project were set. After a three month grace period, BAA's revenues were reduced by the amount of the rate of return it would have received had the project been delivered on time.

Project for the sustainable development of Heathrow

B7 The 2003 Air Transport White Paper supported the construction of a third runway and sixth terminal at Heathrow, and the introduction of mixed mode operations. At the Q5 review, BAA and the CC recognised that most of the costs would be incurred in Q6 and Q7. After the CC review had concluded, the CAA allowed approximately £538 million[56] of early costs (such as planning inquiry and blight costs) associated with this project into HAL's RAB. It did so, however, explicitly acknowledging that it reserved the right to reconsider the treatment of expenditure during Q6 and beyond at subsequent reviews. The implication of the CAA's decision to allow this expenditure into the RAB has been that existing customers must still fund the expenditure, even though neither they nor subsequent customers will benefit from the significant capacity expansion that it was supposed to facilitate. This had two main effects:

- it transferred the regulatory risk from the regulated airports to users. This may have reduced the risk that the airport operator may have had to absorb these costs (rather than pass them through to users) and therefore this may have been seen as strengthening the airport operator's financial position. As such, the airport operator may have been able to access funds (from investors/the market) at a lower cost than would otherwise have been the case; and
- it has meant that users of the airport will, all things being equal, face higher charges in the future than would otherwise be the case.

Thames Tideway

B8 This project envisages the construction of a large, 16-mile sewer under the Thames in London, to relieve pressure on the capital's Victorian wastewater system. The estimated cost, excluding financing costs and maintenance costs, is £4.2 billion in 2011 prices. Thames Water's RAB at 31 March 2013 was £10.9 billion. The forecast expenditure on the Thames Tideway is therefore equal to around 40% of the current RAB. Thames Water is delivering certain aspects of the overall scheme, including:

- the Lee Tunnel component of the scheme;

[56] This was the allowance; the outturn expenditure was approximately half that amount.

- upgrades at Beckton wastewater treatment works and the enabling; and
- interface works associated with the Thames Tunnel component.

B9 These elements are expected to cost around £1.4 billion of the £4.2 billion total cost of the project.[57] However, the main works associated with the Thames Tunnel are expected to be delivered by a separately licensed Infrastructure Provider (IP) to be appointed under the Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013. The Government consulted on the specification of the project in December 2013 and will decide in summer 2014 whether to specify the project for delivery by an IP. The elements of the overall scheme that will be delivered by Thames Water will be remunerated in Thames Water's RAB. The elements delivered by the IP will be separately funded in the RAB of the IP.

B10 In its 2013 consultation document, the Government identified four reasons for specifying the project for delivery by an IP:

- scale risk, arising from the size of the project in the context of the whole of Thames Water's business;
- construction risk, arising from the nature of the project's construction works in the context of the works usually undertaken by the incumbent undertaker;
- management risk, arising from the type and scale of management resource necessary to manage the project in the context of the management resources necessary to manage the rest of the incumbent undertaker's business; and
- regulatory risk, arising from the duration of the project in the context of the usual duration of capital works in the incumbent undertaker's business.

B11 Each of these risks is relevant for the provision of additional airport capacity.

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[57] Defra, Thames Tideway Tunnel: Draft Reasons for Specifying the Project as a Specified Infrastructure Project and Issuing a Preparatory Work Notice, available at: https://consult.defra.gov.uk/water/thames-tideway-tunnel-reasonspecify (accessed 23 April 2014).

Northern Ireland gas networks

B12 In 1993, British Gas (now National Grid Gas) constructed a pipeline from Scotland to Northern Ireland to extend the UK's gas network to the province. Three gas transmission networks, PTL, BGTL and BGE, and two distribution networks have been constructed to cover much of population of Northern Ireland. A further expansion of the network to the west of the province is currently envisaged. The price regulation of the gas industry in Northern Ireland is unusual in the UK because the control is set to give investors a reasonable rate of return over 40 years, rather than over a quinquennium. This was necessary because the construction of the gas transmission networks was envisaged to be a long-term investment, with low immediate returns. This was through (among other factors) fixing the WACC over the first 20 years (1996-2016), allowing losses to be rolled up into RAB and having some aspects of regulation defined in the licence.

B13 The case for using this approach seems stronger for a greenfield project than for capacity expansion at an existing airport. However, if it seems desirable to insulate customers of the existing infrastructure from the significant increase in prices which an additional runway would cause, this model could be appropriate for the additional expenditure. It could also be relevant if the Inner Thames Estuary proposal, which would be a greenfield site, is taken further. Another relevant feature of the Northern Ireland gas networks is that substantial Government subsidies were given for their construction. The incorporation of these grants as negative capex could be a way to treat any subsidies which are necessary for airport capacity expansion.

B14 There is one additional development in Northern Ireland gas regulation which could have lessons for UK airport regulation. The demand assumptions proved to be unrealistic and had to be revised in 2006. In the revised reallocation, customers bore a higher share of volume risk than had been anticipated when the price controls were established.

GB offshore electricity transmission

B15 In the UK, separate Offshore Transmission Owners (OFTOs), which are neither the windfarm developers nor the onshore transmission owners, take responsibility for offshore transmission assets under long term licences. The licence guarantees revenues over a 20-year period subject to certain conditions (such as satisfying performance obligations). The OFTO regime was established in 2009 by Government and Ofgem with the objectives of:

- delivering fit for purpose transmission infrastructure to connect offshore generation;
- providing best value for money to consumers; and
- attracting new entrants to the sector.

B16 Pursuant to the objectives above, competitive tenders have been run for thirteen OFTOs to date, nine of which have been completed and licences granted, four of which are currently running. Beyond this, a significant pipeline of projects will be tendered from 2014 onwards.[58]

B17 Ofgem and the Government established this framework between 2006 and 2009. In 2006, a joint consultation identified two options:

- a non-exclusive system where an offshore transmission owner licence is granted to any party that can satisfy relevant application criteria. This system would allow these parties to compete with each other for the right to build, own and operate offshore transmission connections; and
- an exclusive system based on onshore transmission network arrangements, where a single transmission owner would be responsible for responding to connection requests from generators in a certain offshore geographical area.

B18 On 29 March 2007, the Government chose the first option.[59] In summary, the Government considered that the non-exclusive approach would:

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58 Further information on the tendering of offshore transmission assets is available at: www.ofgem.gov.uk.

59 See the archived Government consultation at: http://www.berr.gov.uk/files/file38705.pdf.

- deliver cheaper and more timely offshore grid connections;
- encourage innovation through competition and enable new entrants to compete in the market;
- be more focused on generators' requirements than the onshore system or the exclusive approach; and
- enable generators to bid to own their own transmission assts if they wished.

Regulated third party access arrangements for LNG terminals[60]

B19 In the UK, the default arrangement for LNG facilities requires third party access, although no such approach is currently use in the UK. The first step in the process for access to any capacity is that the maximum LNG facility capacity is made available to market participants. Ofgem then considers that best practice would be for LNG system operators to consult the market before developing the main commercial terms and conditions applying to their facilities under the regulated Third party access (rTPA) arrangements. One of the aims of this is to ensure that an LNG system operator does not discriminate in the provision of the services that it offers.

B20 LNG system operators under rTPA arrangements are also required to implement and publish non-discriminatory and transparent capacity allocation mechanisms. This approach is to ensure that LNG capacity is allocated to the participants that place the highest value on it, irrespective of who the customer is. Ofgem considers that auctions would be an effective mechanism by which this could be achieved.

B21 With respect to new capacity, Ofgem considers that open season procedures could provide an acceptable alternative to auctions, to ensure a comprehensive market consultation and non-discriminatory allocations. An open season process involves two phases:

[60] Ofgem, Guidance on the regulated Third Party Access regime for Liquified Natural Gas facilities in Great Britain, available at: https://www.ofgem.gov.uk/ofgem-publications/40393/guidance-regulated-third-party-access-regime-liquefied-natural-gas-facilities-gb.pdf (accessed 13 May 2014).

- Phase 1 – the preparatory phase: during this phase a potential investor will assess how much capacity the market needs and under what terms (i.e. price and contract duration); and
- Phase 2 – capacity allocation: during this phase, an investor will offer capacity to the open season participants and, if satisfied with the offer, open season participants will sign a binding agreement with the investor. (In effect, these long-term agreements help finance the market tested capacity.)

B22 Ofgem also considers that market based arrangements, whether auctions or open season procedures, are the most appropriate method to determine tariffs in the GB market.

B23 Ofgem also outlines the range of anti-hoarding arrangements that should be adopted, including use it or lose it, arrangement – these arrangements are broadly similar to the approach that is used in slots, where a slot has to be used to certain level otherwise it is lost (although the CAA recognises that slots are not allocated through an auction process).

International airport examples

B24 This section considers some more recent examples of how airport operators have (or intend to fund) significant airport expansion projects. Specifically, this section considers:

- Hong Kong's development of a third runway; and
- Dublin's development of a second runway.

Hong Kong

B25 The practical maximum runway capacity of the existing two-runway system of HKIA is about 420,000 flight movements annually and it is estimated that the airport will reach its maximum capacity sometime between 2019 and 2022.[61]

B26 The Airport Authority Hong Kong (AAHK) is therefore exploring a three-runway system, which will allow it to accommodate

[61] HKIA, Three-runway system, available at: http://www.threerunwaysystem.com/en/Overview/Three_runway_system.aspx (accessed 16 May 2014).

620,000 flight movements per year, meeting demand projections up to 2030.[62]

B27 Two different options are being considered as to how this expansion can occur but neither option can be funded through the internal cashflow and external prudent borrowing capacity of AAHK. While AAHK considers that it may be able to reduce the shortfall by reviewing the existing revenue framework with a view to increasing the revenue, the magnitude of such additional revenue sources would unlikely be material within this time frame. Subject to views gauged on the way forward for the Master Plan 2030, further discussions on how best to bridge the funding gap between AAHK and the Hong Kong Government would be necessary.[63]

B28 In preparation for these discussions, AAHK has indicated that the following financing possibilities will be analysed in detail. Importantly, the options listed below are not mutually exclusive and will be pursued independently or in combination. The optimal choice will depend on the priorities of AAHK and its shareholders and stakeholders, in addition to other factors such as credit rating considerations and capital market condition at the time the additional funding is needed. [64]

User Pays Principle

B29 Under this principle, the user of the facilities and services provided by HKIA pay for part of the construction costs of Master Plan 2030. The Airport Authority Ordinance empowers AAHK to set up and determine the amount of charges and fees. HKIA has historically maintained a very competitive level of airport tariff, but the current level of changes other than airport charges can be reviewed to identify areas for adjustment. While planning, AAHK will take into consideration the possibility that passenger flow at the airport might be diverted to its neighbouring competitors as a result of any tariff adjustments.[65]

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62 HKIA, Three-runway system.

63 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7, available at: http://hkia3way.blob.core.windows.net/pdf/en/TR_24May_Eng_Ch7.pdf (accessed 16 May 2014).

64 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7.

65 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7.

Equity funding from the private sector

B30 Private sector equity capital can be accessed through a partial sale of HKIA to a selected group of investors. This approach however has many issues, including the issue of diluting the Hong Kong Government's interest in HKIA, and the strategic, operational and pricing implications of reduced control of the business.[66]

Alternative financing instruments

B31 A wide range of financing options along the debt/equity spectrum could also be employed to expand the funding portfolio. Options include:

- Debts that cater to demands from specific funding sources, such as retail bonds, Islamic bonds and Renminbi bonds, etc.;
- Hybrid capital and convertible debts; and
- Structured debts in the form of perpetual bonds, preferred equity, etc.

B32 AAHK does not consider that the list above is exhaustive and considers that more options could be generated depending on market conditions and investor demand at the time when the funding is needed. Some of these instruments, however, will not increase the overall debt capacity. Others, such as structured financing instruments, could find their market constrained by lack of liquidity, small investor base and higher costs. Financing instruments with conversion features also present issues of ownership dilution. Nevertheless, in many cases these instruments will benefit AAHK's overall financing capability by enhancing its credit rating, or from accounting and tax considerations.[67]

Government support

B33 Direct financial support from the Hong Kong Government represents a departure from the user pays principle. But given the economic benefits that HKIA's future expansion would bring to the economy of Hong Kong, the case can be made for seeking Government's funding support. This could take many forms, including an injection of

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66 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7.

67 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7.

additional equity, a reduction in the rate of dividend payout, provision of shareholder's loan(s) and/or guarantees to third party lenders, etc., or a combination of these different methods.[68]

Dublin

B34 Between 2006 and the end of 2010, Dublin Airport Authority (DAA) invested more than €1.2 billion in a major infrastructure development programme, the Transforming Dublin Programme, at Dublin Airport. About half of this investment programme related to the construction of a new passenger terminal (Terminal 2) and its associated facilities.[69]

B35 The investment programme was drawn up following the Irish Government's decision in mid-2005 that the company should invest in the delivery of significant new passenger and aviation facilities at Dublin Airport in part to address the congestion issues that had arisen at the airport due to strong traffic growth over the previous decade.[70]

B36 The development programme was funded by a combination of passenger charges, the DAA's commercial revenues, and borrowings. The DAA is owned by the Irish State but is a fully commercial organisation and receives no State support to fund its operations or capital investments. [71]

B37 In terms of the actual funding arrangements, in July 2008, DAA announced that its financing company, DAA Finance plc, had successfully launched a €600 million, 10-year, 6.5872% Eurobond issue. These bonds were listed on the Irish Stock Exchange.[72]

B38 When releasing this information DAA noted that this financing would help it fund its substantial capital investment programme at Dublin Airport, including the delivery of Terminal 2. The bond issue is

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68 HKIA, HKIA Master Plan 2030 Technical Report, Chapter 7.

69 DAA, Terminal 2 at Dublin Airport, available at: http://www.daa.ie/gns/company-profile/terminal-2-at-dublin-airport/Terminal_2_Construction.aspx (accessed 19 May 2014).

70 DAA, Terminal 2 at Dublin Airport.

71 DAA, Terminal 2 at Dublin Airport.

72 DAA, Media release: Dublin Airport Authority announces successful €600 million benchmark Eurobond issue, 3 July 2008, available at: http://www.daa.ie/gns/media-centre/press-releases/2008/08-07-03/Dublin_Airport_Authority_announces_successful_%e2%82%ac600_million_benchmark_Eurobond_issue.aspx (accessed 19 May 2014).

consistent with DAA's strategy of securing longer-term funding to finance core strategic infrastructure assets.[73]

B39 Commenting on what was only the third 10-year corporate transaction in the Euro bond market since the start of May 2008 (alongside more regular issuers France Telecom and Siemens) and one of only three corporate Euro transactions priced over the past two weeks, Ray Gray, Director-Finance of DAA said: "DAA's ability to raise significant long-term financing at attractive rates in volatile capital market conditions reflects its strong balance sheet and excellent credit profile ('A' rating stable outlook by Standard and Poor's). The bond issue highlights the broad investor support for the group across Europe."[74]

B40 Wayne Hiley, from joint lead managers Barclays Capital added: "Many corporate borrowers have been unable to access the 10-year part of the market in recent months, as bond investors focus on shorter maturities. In very challenging market conditions DAA has secured 10-year money at a historically attractive coupon".[75]

Tentative findings

B41 Consideration of the case studies outlined above leads the CAA to the following findings:

- where it has been possible to treat expenditure in a way consistent with previous practice by putting it through an existing RAB, the CAA has done so. This was the case with Heathrow's Terminal 5 and the PSDH expenditure (although it is important to note that the CAA made these decisions under the Airports Act 1986, not the 2012 duties that place greater emphasis on passengers);

[73] DAA, Media release: Dublin Airport Authority announces successful €600 million benchmark Eurobond issue, 3 July 2008.

[74] DAA, Media release: Dublin Airport Authority announces successful €600 million benchmark Eurobond issue, 3 July 2008.

[75] DAA, Media release: Dublin Airport Authority announces successful €600 million benchmark Eurobond issue, 3 July 2008.

- in the (limited) international airport specific examples the CAA has considered, the role of government finance is limited, with the DAA having to fund its expansion plans itself (notwithstanding the Government telling it to do so) and the AAHK only highlighting that it might have to consider government assistance at a later stage, although it recognised that this would go against the user pays principle;
- in other industries, regulators have used, or are considering using, alternative arrangements. For Thames Tideway, the Government is considering using an IP, and for offshore electricity transmission, a franchising regime has been used. In LNG, long-term contracts can support investment arrangements and regulatory involvement is kept to a minimum, with a focus on ensuring the general framework that is adopted is fit for purpose;
- greenfield projects, such as Stansted airport or the Northern Ireland gas networks, have often demanded different regulatory treatment, though usually within the context of a RAB-based price control. However, the approaches to greenfield site development, which have often implied transferring more risk to users, have sometimes meant that, when demand has fallen short of forecast, the framework has had to be reassessed. Such revisions can be to the detriment of final users, though arguably they are no worse off than they would have been had the demand assumptions been accurate to begin with; and
- it is possible to incorporate subsidies, either from other regulated business, or government grants, within the framework of a RAB-based price control.

APPENDIX C

The CAA's Q5 Regulatory Policy Statement on PSDH costs

C1 The CAA set out its policy on the recovery of PSDH costs in Appendix E of its decision on the Q5 controls for Heathrow and Gatwick. We reproduce the relevant text below.

C2 Treatment of any initial costs associated with the development of a third runway at Heathrow:

The CAA notes that there are a number of features of the CAA's statutory duties – as set out in the current regulatory framework – which have implications for investment in a third runway at Heathrow. In particular, the CAA has duties, amongst others, to promote the efficient, economic and profitable operation of UK airports and to encourage investment in new facilities at UK airports in time to satisfy users' anticipated demands, i.e. economic and efficient investment that meets users' interests, not just any investment. Part of this involves the CAA considering the impact of investment at one airport on other rival airport operators, to the extent that Heathrow operates in competition with other UK airports.

The CAA's interpretation of its statutory duties is that:

1. *the incremental benefits of expansion of Heathrow to its users should exceed the incremental costs borne by users;*
2. *the costs of the proposed development should be efficiently incurred, i.e. no greater than necessary to deliver the infrastructure which would support the proposed expansion; and*
3. *the impact of investment at a designated airport should not unreasonably prejudice feasible investments by rival UK airports, and the development of competition within the South East of England airport market. (This consideration is greater the stronger the competitive interaction between airports, and therefore probably has much more relevance to the development of*

Stansted Airport, were Stansted to continue to be designated, than it does to Heathrow expansion.).

As discussed in chapter 2, the CAA has decided to allow a return on forecast Q5 expenditure of £639 million on the so-termed Project for the Sustainable Development of Heathrow (PSDH), and to provide some degree of certainty to BAA that the expenditure would ultimately be included in the RAB, subject to appropriate protection for users.

The appropriate protection of users would take the form of ex post tests applied to the Q5 PSDH expenditure (both at the mid-quinquennial review and as part of the Q6 review) covering

1. *best practice management, and*
2. *effective consultation in line with the processes for enhanced information disclosure and consultation (set out in Annex G to this decision document). In this respect, the CAA would expect the tests to be no different from those applied to other Q5 capital expenditure.*

However, the CAA would also expect to apply a further ex post test to capital expenditure associated with Heathrow expansion, namely, to review whether the expenditure was necessary at the time it was incurred. The CAA would currently expect decisions about whether expenditure was necessary (or not) to be taken by reference to the CAA's statutory duties under the Airports Act.

The CAA also notes that it would be open to BAA to charge beneath the cap to reflect savings arising from the absence of Government support for Heathrow expansion. BAA might also wish to enter into other specific charging arrangements with airlines that deal with the possibility that Heathrow expansion takes place in a different way, or to a different timetable, from that envisaged, or does not take place at all.

APPENDIX D

Assessment of risk of capacity expansion between key stakeholder groups

D1 This appendix considers the risk of capacity expansion between key stakeholder groups, particularly that associated with:

- passengers and cargo owners;
- investors;
- airlines and cargo operators; and
- airport operators.

Passengers and cargo owners

D2 Passenger and cargo owners are the end-users of any capacity expansion. Airlines and cargo operators are generally the intermediate users of any such expansion.[76] Significant capacity expansion is, relative to other investments which an airport may undertake, lengthy, uncertain and expensive. The CAA considers these characteristics pose the following risks to passengers and cargo owners:

[76] This is not the case with all aspects of capacity expansion. For example, for additional retail space constructed by the airport, the intermediate user will be retailers rather than airlines. For rail access, the intermediate provider will be Transport for London or Cross-London Rail Links (Crossrail) rather than the airlines. In addition, some other services, especially inside the terminal building are provided by the airport directly to passengers.

- **Risk 1**: The capacity expansion could be delivered late. Building a new runway and the associated infrastructure is a complicated task, and the scope for delay is significant. Many large infrastructure projects (for example, the West Coast Main Line upgrade have been delivered late). This is a risk to passengers because existing passengers will have to suffer the delays and denial of service caused by the shortage of runway capacity for longer than would be the case if the project were delivered on time. In addition, if prices are regulated and the regulatory system uses prefunding, current customers will have paid for an asset which future customers were expected to use, but will never have done so.
- **Risk 2**: The capacity expansion could be cancelled before coming into use, though after users have funded it through the price control to a significant extent. This happened with PSDH at Heathrow when it was cancelled in 2010, after the airport had incurred significant expenditure (and committed itself to incurring more expenditure over subsequent years through the property bond scheme). This is a risk for customers if they are required to fund the capex incurred, though no significant capacity expansion has been delivered.
- **Risk 3**: The capacity expansion could deliver less additional capacity than expected. This can affect customers in two ways. Firstly, if we assume that the airport suffers continued capacity constraints, some customers will not be able to fly when they wish to do so. Secondly, unless the reduction in capacity expansion causes a significant saving in cost, those customers which are able to fly may have to pay higher airport charges, because the costs of the capacity expansion will be shared over fewer customers.

- **Risk 4**: The capacity expansion could be delivered at a higher capital cost than anticipated. Many large infrastructure projects suffer significant cost overruns. For example, the upgrade to the West Coast Main Line, which was originally budgeted at £2 billion, cost £9 billion. Heathrow's Terminal 5 was originally budgeted to cost £1.8 billion, but eventually cost £4.5 billion.[77] Ultimately, final customers are likely to fund the capacity expansion in large part through airport charges[78], and this is therefore a risk for them.
- **Risk 5**: Financing costs for the capacity expansion could be higher than anticipated. Given the high capital cost of capacity expansion, the ability to raise funds at a reasonable rate is important in reducing the overall cost of the project. As noted in the previous bullet, final customers are likely to fund the capacity expansion in large part through airport charges, and this is therefore a risk for them.
- **Risk 6**: Operating expenditure could be higher than projected. This risk seems likely to be less significant than Risks 4 and 5, because a new runway is likely to be relatively capital intensive. However, handling significant numbers of new passengers will increase operating costs.[79] In addition, the new capacity could be more expensive to operate, especially if it contains relatively opex-heavy components such as a new terminal building, which require constant cleaning and other maintenance. If these costs are greater than anticipated, it is likely that much of the excess will be passed on to customers in higher prices.
- **Risk 7**: The associated commercial revenues and other regulated charges could be lower than anticipated. If the airport continues to be subject to a single till control, passengers will face higher than anticipated regulated charges.

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77 BBC, Queen opens new Heathrow terminal, available at: http://news.bbc.co.uk/1/hi/uk/7294618.stm.

78 Though other sources, such as retail and commercial revenues and government subsidies may also play a role.

79 During the Q6 reviews, the CAA assumed that an increase of 1% in passenger volumes increased operating expenditure by 0.3%.

- **Risk 8**: Passenger numbers are lower than anticipated. If passenger numbers are lower than forecast, those customers choose to fly may have to pay higher airport charges, because the costs of the capacity expansion will be shared over fewer customers.

The airport operator undertaking the expansion and its investors

D3 The airport operator undertaking the expansion also faces a number of risks in so doing. In most cases, these are risks to its profitability, and hence also risks for its investors.

- **Risk 1**: The capacity expansion could be delivered late. This is a risk for the airport operator both because it delays the revenues associated with the increase in capacity, and because its reputation for the construction of significant capex projects could be adversely affected. The effect may be lower if the delay is caused by factors outside the airport's control, such as a change in government policy, rather than a delay which is caused by poor project management.
- **Risk 2**: The capacity expansion could be cancelled before coming into use, though after the airport operator has incurred significant expenditure. If the airport operator is not subject to price regulation, or if some risk-sharing mechanism has been established, the airport operator could face a significant loss as it will have funded capacity for which it does not receive revenue.
- **Risk 3**: The capacity expansion could deliver less additional capacity than expected. Under the current system of economic regulation, this is a risk for customers over the long-term, since the airport operator's revenues are adjusted for new traffic forecasts at each quinquennium. However, the airport operator is expected to absorb the impact of short-term shortfalls in traffic numbers, and it is possible that the system of economic regulation could change to allocate more long-term risk to the airport operator.

- **Risk 4**: The capacity expansion could be delivered at a higher capital cost than anticipated. Under the current system of economic regulation, this is largely a risk for customers, since the airport operator's RAB is adjusted for actual capex at the end of each price control period. However, the airport operator is expected to absorb the financing costs of any additional capex within period, and, as with traffic forecasts, it is possible that the system of economic regulation could change to allocate more long-term construction cost risk to the airport operator.
- **Risk 5**: Financing costs for the capacity expansion could be higher than anticipated. As noted above (Risk 3), under the current system of economic regulation, the airport operator is expected to absorb any additional financing costs in the short-term. Long-run, ongoing changes in financing costs are passed through to customers at the next periodic review. However, the system of economic regulation could change to allocate more long-run financing risk to the airport operator.
- **Risk 6**: Operating expenditure could be higher than projected. Since the airport operator is expected to absorb short-term fluctuations in operating costs, if those costs are higher than anticipated, the airport operator's profitability will decline. In the medium, if costs are not effectively managed the airport operator could face significant cost over-runs, which may affect its overall profitability.
- **Risk 7**: The associated commercial revenues and other regulated charges could be lower than anticipated. If the airport operator continues to be subject to a single till control, passengers will face higher than anticipated regulated charges.
- **Risk 8**: Passenger numbers are lower than anticipated. If passenger numbers are lower than forecast, those customers choose to fly may have to pay higher airport charges, because the costs of the capacity expansion will be shared over fewer customers.

Airlines and cargo operators

D4 For most aspects of airport services, airlines and cargo operators are the intermediaries between the airport and final customers. Final customers pay fees for accessing airports services on their ticket prices, which are paid to the airport operator. The precise extent to which changes in airport charges are passed through to final customers is dependent on a number of factors. However, it seems likely that airport and cargo operators are at risk at least to some extent from a significant capacity expansion at a regulated airport.

D5 Airlines and cargo operators face a number of risks from such capacity expansion. These risks are heightened if they cannot pass the costs of expansion through to final customers.

- **Risk 1**: The capacity expansion could be delivered late. There is considerable scope for delay in such projects. Delaying capacity expansion could impact airlines and cargo operators if their business plans are based on that expansion. For example, they could base their fleet procurement plans on the assumption that the capacity will be delivered on a certain date, and face the cost of financing those planes without the associated passenger revenues if it is not delivered as planned. However, many airlines lease planes rather than owning them outright. This could mean that any impact which airlines face would be relatively short in duration.
- **Risk 2**: The capacity expansion could be cancelled before coming into use, though after users have funded it through the price control to a significant extent. This would affect airlines' profitability for the same reason that late completion of the capacity expansion might. If airlines have based their business plans on the delivery of capacity expansion, which does not then occur, they could face the cost of financing capacity expansion of their own which has not taken place.

- **Risk 3**: The capacity expansion could deliver less additional capacity than expected. Again, it is possible that, if the airlines and cargo operators have planned expansions of their own capacity on the basis of the capacity being delivered to plan, they could face losses if they are unable to secure sufficient slots to employ the planes which they have procured.
- **Risk 4**: The capacity expansion could be delivered at a higher capital cost than anticipated. If the capacity expansion is more expensive than contemplated, airlines could face significant extra capital costs once the airport operator's RAB is adjusted at the end of the regulatory period, through higher regulated charges. However, this risk will only affect airlines and cargo operators to the extent that they cannot pass those increases on to final customers.
- **Risk 5**: Financing costs for the capacity expansion could be higher than anticipated. As with the previous bullet, airlines and cargo operators are likely to face significant extra capital costs once the airport operator's price control is adjusted at the end of the regulatory period, through higher regulated charges. However, this risk will only affect airlines and cargo operators to the extent that they cannot pass those increases on to final customers.
- **Risk 6**: The airport operator's operating expenditure could be higher than projected. This risk seems likely to be less significant than Risks 4 and 5 as a new runway is likely to be relatively capital intensive. However, handling significant numbers of new passengers will increase operating costs.[81] In addition, the new capacity could be more expensive to operate, especially if it contains relatively opex-heavy components such as a new terminal building, which require constant cleaning and other maintenance. As with the previous bullets, airlines and cargo operators are likely to face significant extra ongoing operating costs once the airport operator's price control is adjusted at the end of the regulatory period, through higher regulated charges. However, this risk will only affect airlines and cargo operators to the extent that they cannot pass those increases on to final customers.

[81] During the Q6 reviews, the CAA assumed that an increase of 1% in passenger volumes increased operating expenditure by 0.3%.

- **Risk 7**: The associated commercial revenues and other regulated charges could be lower than anticipated. As with Risks 4-6, if the airport operator continues to be subject to a single till control, airlines and cargo operators will face higher than anticipated regulated charges, impacting their profitability to the extent that they are unable to pass these increases on to final customers.
- **Risk 8**: Passenger (or cargo) volumes are lower than anticipated. If passenger numbers are lower than forecast, airlines are likely to face two adverse effects. They will have lower than anticipated income from air fares, resulting in lower profitability (assuming marginal costs are lower than marginal revenues). In addition, under the current regulatory system, they will face higher than anticipated regulated charges, once the level of charges is adjusted at the next price control review.

Airport operators

D6 It is likely that the CAA will have to consider the impact of capacity expansion on airport operators besides those undertaking the expansion for two key reasons:

- The CAA's statutory duties do not limit it to considering only one airport. For instance, it is required to consider the interests of all users, rather than simply those at Heathrow or Gatwick. In addition, its financing duty requires it to secure that all licence holders (not merely the airport undertaking the expansion) can finance their licensed activities.
- The CAA is required to undertake a competition assessment prior to considering whether airports should be regulated. This will require it to consider the impact of the expansion in capacity not merely on the airport operator that is expanding the capacity at its airport, but also on other airport operators whose regulation is contemplated.

D7 In concrete terms, this means that it is likely that the CAA will need to consider the impact of capacity expansion at Heathrow on GAL's financial viability and competitive position, and vice versa. There is a significant degree of overlap between the risks faced by airport operators, passengers and airlines and cargo operators. However, the risks to the airport operators in question overlap to a significantly

lesser extent. The main possibilities which the CAA has identified in this area are:

- **Risk 1**: The capacity expansion could deliver a significantly greater level of capacity than anticipated. If the other airport operator is recovering a significant degree of scarcity rent, the provision of extra capacity at its rival could mean that it faces insufficient demand. Given the high level of fixed costs in the airport industry, this could undermine the airport operator's financial viability.
- **Risk 2**: The extra facilities provided at the airport from the capacity expansion could increase its attractiveness to users. All plans for capacity expansion include, for instance, new terminal infrastructure and significant surface access improvements. These improvements could damage the competitive position of the other airport operator. For example, G2 could significantly change GAL's competitive position relative to a two-runway Heathrow, particularly if complemented by additional surface access provision.
- **Risk 3**: The extra capacity is delivered at a lower cost than assumed. This could be a risk for the other airport operator as it could mean that the prices at the regulated airport would be lower for a given level of capacity than would be the case had the capacity been delivered at full price. This could mean, assuming that the two airports were in the same market, that the competitor airport has to lower its prices, perhaps endangering its financial viability. The magnitude of this risk to the other airport operator therefore depends on the level of competitive pressure that the operator of one airport can impose on the other.
- **Risk 4**: The extra capacity is delivered at a higher cost than assumed. This could be an indirect risk for the other airport operator as it might reduce the attractiveness of similar projects to users, investors and the Government in the future.

APPENDIX E

Abbreviations

Abbreviations	
AAHK	Airport Authority Hong Kong
ACL	Airports Coordination Limited
AICC	assets in the course of construction
AIO	assets in operation
capex	capital expenditure
CC	Competition Commission
CE	Constructive Engagement
CMA	Competition and Markets Authority
DAA	Dublin Airport Authority
DfT	Department of Transport
EU	European Union
FSC	full service carrier
G2	a second runway at Gatwick to the south of the existing airport
GAL	Gatwick Airport Limited
H3	a runway at Heathrow, north west of the existing airport
HAL	Heathrow Airport Limited
HH	westward extension of the northern runway at Heathrow Airport
HKIA	Hong Kong International Airport
IP	Infrastructure Provider
LBC	Licence Backed Commitments
LCC	low cost carrier
LNG	liquefied natural gas
MCC	material change in circumstances
MPD	market power determination
NPV	net present value
OFTOs	Offshore Transmission Owners

Abbreviations (continued)	
opex	operational expenditure
PSDH	project for the sustainable development of Heathrow
Q1, Q2,…, Q7	The first, second, …, seventh price review periods
RAB	regulatory asset base
rTPA	regulated Third party access
SMP	substantial market power
SPV	special purpose vehicle
STAL	Stansted Airport Limited
the Act	Civil Aviation Act 2012
the Commission	Airports Commission
WACC	weighted average cost of capital