Maximum Levels of Airport Charges

at Dublin Airport

Issues Paper

Commission Paper 6/2008

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Table of Contents

1. Introduction

1.1 This paper begins a process of engagement between the Commission and its stakeholders towards the making of a new determination on airport charges at Dublin airport. Airport charges include charges for taking-off, landing and parking aircraft, for the use of airbridges, for arriving and departing passengers, and for the transportation of cargo.

1.2 The Commission needs to make a new determination governing airport charges at Dublin airport by the end of 2009. It currently plans to make its final determination in September 2009.

1.3 The existing price cap governing airport charges at Dublin airport expires at the end of 2009. In September 2005 the Commission made a determination which set a maximum level on airport charges at Dublin airport for the four year period 2006 to 2009.[1] This determination was challenged by the DAA at an Aviation Appeals Panel convened by the Minister for Transport.[2] Based on the findings of the panel the Commission varied certain aspects of its determination.[3] Having received a revised capital investment plan from the DAA in 2006 which differed markedly from that relied upon for the determination, the Commission conducted an interim review of the determination.[4] In its review the Commission decided not to alter the price cap.[5] A judicial review brought by Ryanair against the Commission's decision was dismissed by the High Court. More recently, in October 2008 the Minister for Transport convened an appeal panel to consider the 2007 interim review.[6]

1.4 The purpose of this report is to consult with all parties on how the Commission should proceed to determine the next price cap. There are a wide range of issues that can potentially influence the final determination. The Commission is keen to hear from all parties on these matters at an early stage. Comments on policies that the Commission should adopt, methodologies that the Commission should or should not use, and possible data sources that the Commission might rely on are all welcome.

Structure of the report

1.5 The next chapter describes the Commission's approach to regulation. This includes explaining how the Commission sets price caps, what inputs feed into the calculation of the price cap and the relative importance of each of these.

1.6 *Chapter 3* sets out the Commission's current thinking on how it will treat service levels in setting the price cap for the next determination.

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[1] Commission for Aviation Regulation "*CP3/2005 – Determination on the maximum level of airport charges*" 29 September 2005. See the airport charges section of the Commission's website www.aviationreg.ie.

[2] See "*DAA submission to the Aviation Appeal Panel*" December 2005, available for download in the '2005 airport charges' section of the Commission's website.

[3] Commission for Aviation Regulation "*CP5/2006 - Maximum Levels of Airport Charges at Dublin Airport: Decision of the Commission further to a referral by the 2006 Aviation Appeal Panel*" June 2006. See www.aviationreg.ie.

[4] Commission for Aviation Regulation "CP9/2006: Decision to hold an interim review of Dublin Airport charges determination", December 2006. See www.aviationreg.ie.

[5] Commission for Aviation Regulation "*CP6/2007 - Final decision on interim review of 2005 determination*" July 2007. See www.aviationreg.ie.

[6] Department of Transport "*Submission of appeals on maximum levels of airport charges at Dublin Airport*" August 2008. See the Aviation and Air Travel section of www.tranpsort.ie.

1.7 *Chapters 4, 5, 6* and *7* respectively deal with the traditional regulatory building blocks of passenger forecasts, operating expenditure ("opex"), commercial revenues and capital costs. Each of these chapters includes data on how the DAA has performed under the current cap, as well as a discussion of possible methodological and policy issues.

1.8 *Chapter 8* discusses the Commission's approach to meeting its statutory objective of enabling the Dublin airport Authority to operate and develop Dublin airport in a sustainable and financially viable manner.[7]

1.9 *Chapter 9* sets out other issues that do not fall neatly within one of the traditional 'building blocks' but nevertheless may influence the final determination. The list is not considered to be comprehensive: parties are encouraged to identify any other issues that they think should be considered when setting the next price cap.

The next steps

1.10 The next step is for interested parties to respond to this issues paper. The deadline for responses is 18 December 2008. Details on how to make a submission are set out in *Chapter 10*. There are boxes in each of the preceding chapters listing some questions that parties may consider important when developing their response.

1.11 The proposed timetable leading up to the final determination is set out in the box below. The Commission's website will be updated to reflect any changes to this timetable.

1.12 The website will also be used to notify parties of any developments that might have a material bearing on the setting of the next price cap. The Commission is aware of a number of potential events that may have implications for the current and/or future determinations. For example:

- The report of the appeal panel established by the Minister of Transport to consider the 2007 interim review;
- The possible separation of the airports (Cork, Dublin and Shannon) that the DAA currently operates into three independent companies;
- Decisions regarding the operator of Terminal 2 (T2) at Dublin airport.

1.13 If necessary, the Commission will separately consult with interested parties on how the next price cap should be set to satisfactorily reflect material developments not anticipated in preparing this issues paper.

[7] See Article 22(4) State Airports Act 2004

Timetable for the 2009 Determination

- September 2008: Regulatory submission by the DAA of out-turns for current determination
- October 2008: Publication by the Commission of Issues Paper
- ***18 December 2008: Deadline for responses to Issues Paper***
- February 2009: Submission by the DAA of a capital investment plan for the period of the next determination
- March 2009: Submission by the DAA of forecasts for the next determination period
- May 2009: Publication by the Commission of a draft determination
- July 2009: Deadline for responses to the draft determination
- September 2009: Publication by the Commission of new determination

2. The Commission's Approach to Regulation

2.1 This chapter sets out the Commission's current approach to regulating airport charges at Dublin airport. Parties are invited to comment on the current approach and to suggest alternatives.

Statutory background

2.2 One of the Commission's primary functions is to set a maximum level, or 'cap', on airport charges at Dublin airport. The Air Transport and Navigation Act 1998 defines airport charges as:

- *Charges levied in respect of landing, parking or take-off of aircraft at an aerodrome including charges for airbridge usage but excluding charges in respect of air navigation and aeronautical communications services levied under Section 43 of the Irish Aviation Authority Act of 1993;*
- *Charges levied in respect of the arrival or departure from an airport by air of passengers; or,*
- *Charges levied in respect of the transportation by air of cargo, to or from an airport.*

2.3 The DAA currently levies airport charges for runway usage, aircraft parking, airbridge usage and passenger processing. It does not currently levy a separate and distinct charge in respect of cargo.

2.4 The Commission's objectives in setting a cap on airport charges are:

- *To facilitate the efficient and economic development and operations of Dublin airport which meets the requirements of current and prospective users of Dublin airport;*
- *To protect the reasonable interests of current and prospective users of Dublin airport in relation to Dublin airport; and,*
- *To enable Dublin Airport Authority to operate and develop Dublin airport in a sustainable and financially viable manner.*

2.5 While the Commission is mandated to set a cap on airport charges it has some discretion on the form and operation of the cap. The remainder of this chapter sets out how the existing cap operates and describes its intended incentive properties. Parties are invited to comment on the Commission's approach to capping airport charges and to propose alternative approaches consistent with the Commission's powers under the Aviation Regulation Act, 2001.

Price-cap regulation

2.6 The regulatory regime operated by the Commission since its first airport charges determination in 2001 is to set a ceiling or 'cap' on airport charges, expressed as a maximum per passenger charge, that can be levied on airport users by the regulated firm.

2.7 The price cap that the Commission sets operates on a CPI +/- X basis. The firm can change its prices on an annual basis by the rate of consumer price inflation plus or minus 'X' percent. The 2006-2009 price cap is expressed as CPI+4% and therefore allows for a real (inflation-adjusted) price increase of 4% for each year in the regulatory period. Hence if the DAA's unit costs increase by less than 4%

per annum, after allowing for inflation, it will earn additional profits until the end of the price-control period.

2.8 The per-passenger cap on airport charges is based on a forecast of aeronautical costs and also expected net commercial revenues. This is sometimes referred to as a 'single-till' approach. An alternative approach, known as 'dual till', bases airport charges on the assets and costs involved in providing the services defined as airport charges and does not consider the costs and revenues derived from other activities.

Price-cap incentives

2.9 In competitive markets firms seek to gain advantage over one another by realising efficiencies. Competition forces companies to employ the most efficient production methods and share the benefits of greater efficiency with their customers through lower prices. Firms have strong incentives to seek more efficient production methods not currently employed by rivals as they can become more profitable at existing market prices, or possibly lower prices. Rivals will seek to realise similar efficiency gains. Market competition will eventually result in the benefits of efficiency being fully shared with customers through lower prices.

2.10 Price caps are one way a regulator can seek to create similar incentives for a firm to seek productive efficiencies and later force it to share the benefits of greater efficiencies with its customers through lower prices. As described above, it does this by seeking to cap the firm's prices such that the firm can recover efficiently incurred costs while keeping any additional profits it earns by finding further efficiencies beyond those assumed in the price cap. The regulator then shares the additional efficiencies with the firm's customers when it sets its next price cap by basing the new price cap on the more efficient cost base achieved by the firm.

2.11 Price caps are not immediately revised down whenever a firm out-performs a regulator's assumptions on costs, nor revised upwards if its costs exceed the Commission's forecasts. Price caps last for a defined period to provide the firm with the certainty that any profit earned during that period through additional efficiency can be retained by the firm. This certainty is crucial to the cost reducing incentives inherent in a price cap. In the long run, consumers should realise the benefits from these enhanced incentives for the firm to become more efficient.

2.12 There are trade-offs involved in determining the optimal duration of a price cap. If the price-cap period is too short it undermines the cap's intended incentive properties, too long and consumers realise a much smaller share of the potential savings. A firm will have the strongest incentive to achieve greater efficiency towards the beginning of the regulatory period as it can retain the value of efficiency for the longest period. A system of rolling incentives may remedy this distortion to efficiency incentives and is discussed within the operating costs, capital costs and commercial revenues chapters of this report.[8]

2.13 Under the current price cap, the DAA assumes all of the risks (positive and negative) that out-turns will not accord with the forecasts made when the price cap was set. If the DAA out-performs the Commission's forecasts it retains all the extra profits while if it under-performs against the Commission's forecasts it incurs all the losses. The Commission does not ordinarily 'claw-back' profits earned by the firm nor compensate the firm for unforeseen costs or demand shocks. Parties may consider alternative approaches that involve the sharing of a

[8] See Commission for Aviation Regulation, "CP4/2008 – consultation on efficiency incentives (rolling schemes) at Dublin Airport", June 2008. Available on www.aviationreg.ie

certain level of risk, for example, if there was an unforeseen shock to passenger numbers.

Price-cap calculation

2.14 The price cap is derived from a series of inputs known as 'regulatory building blocks' which are calculated by the Commission at the time of a price-cap determination. These building blocks are:

- An estimate of efficient future operating expenditures (discussed in Chapter 5 of this report);
- Plus a return on capital (discussed in Chapter 7);
- Plus a depreciation allowance (also discussed in Chapter 7);
- Less an estimate of future commercial revenues (discussed in Chapter 6).
- The sum of these building blocks is divided by a forecast of passengers (see Chapter 4) to give the maximum per passenger airport charge.

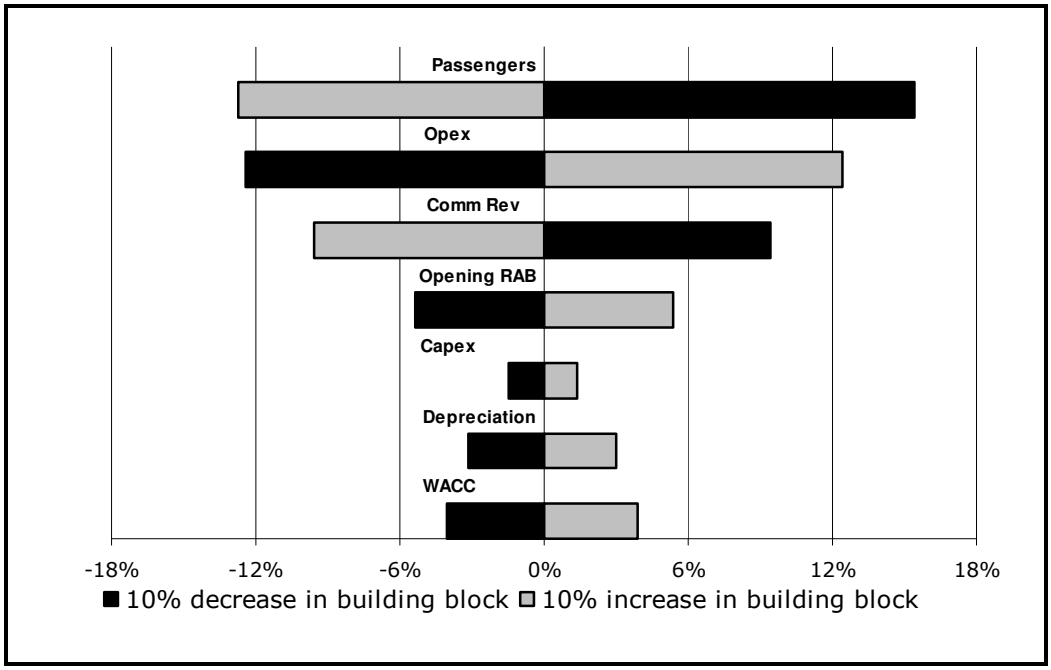

Figure 1 : Effect on average 2006-2009 price cap of 10% change in building blocks

2.15 For the existing price cap, Figure 1 shows how a change of 10% in one of the building blocks used to determine the price cap in 2005 would have affected the average price cap between 2006 and 2009. Each scenario assumes no change in any other building blocks with the exception that the exercise assumes that opex and commercial revenue forecasts would vary if passenger number forecasts were altered.

Issues – general approach

- Should the Commission continue with a CPI +/- X approach, using a single till, when setting the price cap?
- How should risk be treated? As stated in paragraph 2.13 above, the DAA currently bears all the risks, positive and negative, that the price cap is based on forecasts that turn out to be incorrect. Parties are asked to state if, and under what conditions, the Commission should deviate from this approach through 'clawbacks', *ex post* reimbursements to the firm or some other form of risk sharing.
- What should be the duration of the next determination? The Act requires that a cap last for a minimum of four years. Do parties consider four years appropriate, or would they prefer the cap to apply for a longer period?

3. Quality of Service

3.1 This chapter sets out issues relating to quality of service that the Commission might have regard to when setting the next cap.

3.2 In June 2008, the Commission published a consultation paper on "The Regulatory Approach Taken towards Quality of Service at Dublin airport".[9] As noted in this consultation paper, the current price cap does not include any explicit treatment of quality of service. The aim of the consultation was to ascertain parties' views in relation to how to define and measure quality of service at Dublin airport, and how to treat it for the purposes of the price cap (in particular, what financial incentives, if any, should there be to influence delivery of quality of service at Dublin airport). The consultation paper also sought respondents' views on the appropriate trade-off between the level of charges and quality of service.

3.3 Nine responses were received to the consultation paper, all of which are available on the Commission's website. Annex 1 includes a summary of the responses. There were a wide range of views on what quality of service actually means to various parties, and how the Commission could incorporate such views into its price cap deliberations. The Commission has considered these responses carefully in deciding how it might have due regard to quality of service at Dublin airport.

The Commission's proposed approach

3.4 Having reflected on the responses to the consultation, the Commission has decided that there is case for providing both clearer and sharper incentives for the DAA to deliver an appropriate quality of service at Dublin airport. There are two ways that the Commission proposes to achieve this:

- The Commission will publish regular updates showing how the DAA has performed with regard to each of the measures for quality of service that the Commission finally settles on. Such information could be published annually or at shorter time intervals yet to be decided.

- The Commission will include a quality of service term in the price-cap formula to create a link between the level of the price cap on airport charges at Dublin airport and the quality of service delivered by the DAA.

3.5 In broad terms, our proposals raise two fundamental issues: (1) How should quality of service be assessed; and (2) Given the answer to the first question, what is the appropriate scale and scope of the financial incentives that DAA should face. These issues are discussed in the followed two sections.

Assessing Quality of Service

3.6 There are three issues relating to *assessing* quality of service: how to measure quality of service; setting targets against these measurements; and, collecting data on quality of service (including how frequently to collect and report information). We address each of these in turn.

[9] See Commission for Aviation Regulation (2008) "Quality of Service at Dublin Airport, Commission Paper 3/2008". Available on www.aviationreg.ie.

Measuring quality of service

3.7 To assess quality of service, the Commission is currently minded to focus on 11 separate measures. These are listed in the first column of Table 1 below. The Table also lists some proposed metrics for each of the quality of service measures listed. At present, the Commission does not separately collect information on quality of service metrics at Dublin airport (this issue is discussed further below). Therefore the metrics proposed in the table draw on existing information collected by various parties: three of these measures are taken from the service level agreements (SLAs) that the DAA has with the Airline Operators Committee (AOC), the remaining eight measures are taken from the Airports Council International (ACI) passenger survey of airports where passengers are asked to rate satisfaction with various airport services on a scale of 1 to 5.

3.8 Some of the measures affect the service airlines receive from the airport, others relate to the passenger experience at the airport directly. All of the measures are ones that the Commission believes that the DAA can influence during the period of the next Determination. Interested parties are invited to comment on whether this list of measures is suitable for assessing airport quality of service. Are there important elements missing from the list, or are some (or all) of the items included unnecessary?

Service Quality	Proposed Metric	Current Standard	Industry Average
Security passenger search*	Queuing time during the hours of operation	No longer than 7 minutes 95% of the time,	
Baggage handling system*	Overall system available during hours of operation	Available 99% of time	
Trolley availability*	Trolleys to be available at identified key areas within/around terminal		
Ease of finding your way through the airport	ACI Survey Result	3.68	3.72
Flight information screens	ACI Survey Result	3.73	3.7
Cleanliness of airport terminal	ACI Survey Result	3.54	3.97
Cleanliness of washrooms	ACI Survey Result	3.22	3.61
Comfortable waiting/gate area	ACI Survey Result	3.04	3.49
Courtesy/helpfulness of airport staff (excluding check-in & security)	ACI Survey Result	3.68	3.82
Parking facilities	ACI Survey Result	3.19	3.48
All passengers overall satisfaction with airport	ACI Survey Result	3.19	3.61

Table 1: Proposed measures of service quality

Notes: (*) Currently part of the service level agreement (SLAs) between the DAA and the Airline Operating Committee (AOC)

Target level of service quality

3.9 A key question is: what should the target level of service quality be? Table 1 includes recent data showing quality of service at Dublin airport, as measured by the 11 indicators that the Commission has identified. Parties are invited to comment on whether the target service quality included in the price cap should correspond to these observed values, or what values they should take if they believe that the Commission should set more or less challenging targets. Thoughts are also welcome on how changing the quality of service that the DAA has to provide might affect its costs.

3.10 For reference, Figure 2 shows how the DAA's ACI survey results in 2006 compare with its results in the 2003 survey, and also how they compare with the average results of 32 other airports included in the ACI survey (the lines shown in the bar chart) for which the Commission also has airport-charges data (this does not imply any final decision by the Commission about which, if any, of these airports are relevant comparators for Dublin airport).[10]

3.11 Between 2003 and 2006 six out of eight indicators show a decline in service quality at Dublin airport. Over this period per passenger airport charges rose from €5.92 to €6.60 (in 2008 prices). The figure also shows that Dublin's survey results were generally worse than the average for the other 32 airports. At the same time, a benchmarking exercise suggests that the charges for turning around an Airbus 320, Boeing 737 or Boeing 747 at Dublin airport may only have been 61-80% of the charges for turning around those planes at the other airports in the survey.[11]

[10] The 32 airports are: Amsterdam, Bergen, Birmingham, Brussels, Budapest, Capetown, Copenhagen, Dubai, Dublin, Durban, Edinburgh, Faro, Gatwick, Glasgow, Hamburg, Heathrow, Helsinki, Lisbon, Madrid, Malta, Manchester, Naples, Oslo, Porto, San Francisco, Southampton, Stansted, Stockholm, Trondheim, Venice, Vienna, Zurich. Sixty-nine airports participated in the January to March 2006 ACI Global Survey.

[11] These charges' estimates rely on airport charges data from www.airportcharges.com.

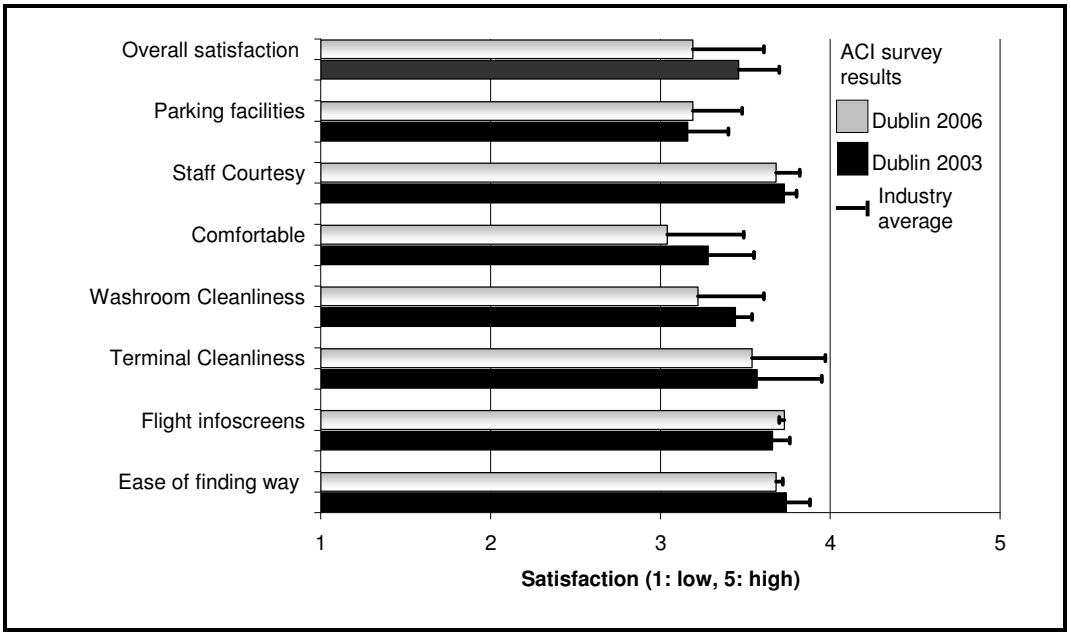

Figure 2 Results from 2003 and 2006 Global survey of quality

Source: ACI

Collecting the information

3.12 The costs of collecting service-quality information will also be considered. More frequent monitoring will be more expensive but the Commission may conclude that the benefits outweigh the costs.

3.13 The Commission is open to suggestions on the most appropriate arrangements for collecting quality of service data. However any suggestions should have regard to the cost implications, for example the administrative costs of additional monitoring.

3.14 The proposed service-quality measures are already being collected by bodies other than the Commission. Parties are invited to comment on whether the Commission should take responsibility for collecting any or all of these measures, rather than relying on others, given the cost implications. If the Commission concludes that it should rely on the results reported by other bodies, such as the results of the ACI survey, what contingency plans, if any, would parties suggest in the event that the third-party ceased collecting the data in the format assumed when setting the service-quality target?

Size of financial incentives

3.15 The Commission proposes to include a quality of service term in the price-cap formula to create a link between the level of the price cap on airport charges at Dublin airport and the quality of service delivered by the DAA. This section discusses issues around how this might work in practice.

3.16 We are currently minded that the service-quality term in the price cap will penalise the DAA if it fails to deliver services to the agreed standards. We do not believe that the DAA should be eligible for a bonus if it exceeds the quality standards identified in the price cap. It should be for users, and not the DAA, to identify the combination of price and quality of service that they would like to receive when using Dublin airport. Consequently the price cap will be set on the assumption that the DAA will deliver a level of service quality that meets users'

needs. In the event that the DAA fails to deliver this standard, there will be financial penalties; but it will not be open for the DAA to collect revenues in excess of a per passenger price cap that the Commission concludes, following consultation, is sufficient to allow the DAA to provide a suitable service quality to meet users' needs.

3.17 To revise the price-cap formula to include penalties for failure to meet the standards set for quality of service will require decisions on how much of the DAA's revenues should be at risk. This includes decisions on how much weight to place on failure to meet the individual indicators that the Commission decides to use to measure quality of service.

3.18 Table 2 below provides details on amount of the BAA's revenues that are at risk at Heathrow for failing to meet individual service-quality measures under the CAA's price cap. The total amount of revenues at risk is 6%. Failure to meet some agreed standards results in a larger rebate by the BAA than failure to meet other measures. The rebates at Heathrow relate to performance on a monthly basis.

3.19 The Commission would welcome ideas on how it should determine the amounts of revenue to put at risk. Would 6% be a suitable amount of for the total revenues to put at risk for Dublin airport should it fail to meet quality standards? Looking at the CAA decision for Heathrow, the Commission is also interested in parties' views on whether similar proportions of charge revenue should be at stake for each of the different measures that the Commission uses?

Element	Metric	Relevant time over[140] which performance counts for rebates	Standard$_t$	Rebate per month P_{tj} (for all j)	Maximum annual rebate ANNMAX$_t$
Departure lounge seat availability	Moving average QSM score	(1) For 2008/9 period since and including April 2008: (2) for 2009/10 onwards, last 12 months.	3.8	0.0600%	0.3600%
Cleanliness			3.9	0.0600%	0.3600%
Way-finding			4	0.0600%	0.3600%
Flight information			4.2	0.0600%	0.3600%
Central security[141] queues	Times queue <5 minutes	05:00-22:30	95%	0.1283%	0.7698%
	Times queue ≤ 10 minutes		99%		
Passenger sensitive equipment (general)	% time available	Period agreed locally for each terminal between airport and terminal AOC.	99%	0.0667%	0.4002%
Arrivals reclaim (baggage carousels)	% time available	Period agreed locally for each terminal between airport and terminal AOC.	99%	0.0667%	0.4002%
Passenger sensitive equipment (priority)	% time available	Period agreed locally for each terminal between airport and terminal AOC.	99%	0.0583%	0.3498%
Stands	% time available	Period agreed locally for each terminal between airport and terminal AOC	99%	0.0517%	0.3102%
Jetties	% time available	Period agreed locally for each terminal between airport and terminal AOC	99%	0.0517%	0.3102%
Pier service	Moving average % passengers served	(1) For 2008/9 period since and including April 2008: (2) for 2009/10 onwards, last 12 months.	As set out in paragraph H.16	0.0583%	0.3498%
Fixed electrical ground power	% time available	Period agreed locally for each terminal between airport and terminal AOC	99%	0.0383%	0.2298%
Pre-conditioned air	% time availability	Period agreed locally for each terminal between airport and terminal AOC	98%	0%	0%
Stand entry guidance	% time available and serviceable	Period agreed locally for each terminal between airport and terminal AOC	99%	0.0517%	0.3102%
Transfer search	Times queue <10 minutes	05:00-22:30	95%	0.0633%	0.3798%
Staff search	Times queue <10 minutes	Period agreed locally for each terminal between airport and terminal AOC	95%	0.0633%	0.3798%
Control posts[142] search	Times < 20 minutes	Period agreed locally for each terminal between airport and terminal AOC	95%	0.0633%	0.3798%

Table 2: Proportion of airport charges revenue attributed to quality rebate scheme at Heathrow Terminals 1, 3, 4 and Heathrow Terminal East

Source: CAA Decision on Heathrow & Gatwick Airports 2008 – 2013, March 2008, page 286

Notes: In addition to the above measures of quality of service, the CAA decision requires measurement of other service quality measures, such as "pre-conditioned air", to be reported on a regular basis, but there is no associated charge revenue-at-risk.

3.20 Where an indicator of service quality can be collected more frequently than once a year, the Commission will consider whether the price-cap should respond to failure to meet agreed standards at a more frequent interval than annually. If it decides to make adjustments more frequently than annually, the Commission will also have to decide how much money should be put at risk for each failure. There will be trade-offs to consider. The Commission would prefer to avoid a scheme likely to create perverse incentives, such as ceasing to give the DAA any reason to care about a particular metric because it had already incurred all the penalties that could apply for the year, or to create penalties each so small that the DAA did not have a sufficient financial incentive to care about realising the standard required in certain periods.

3.21 The possibility of circumstances beyond the DAA's control will also be considered when designing the financial incentives associated with quality of service. In the UK, the BAA does not have to pay a quality rebate to Heathrow and Gatwick users for a deterioration in service quality for certain types of system failure, tower industrial action, closure of runways and for certain occasions when bad weather occurs.

Issues – quality of service

- Are parties content to rely on the indicators for quality of service described in Table 1? If not, what changes would parties propose?
- Should any quality of service targets that the Commission sets differ from the current levels at Dublin airport? If so, what implications are such changes likely to have for the DAA's costs?
- How should the Commission determine the structure and scale of any financial incentives it incorporates into the price cap to encourage the DAA to deliver service-quality targets?

4. Passenger Forecasts

4.1 This chapter discusses passenger forecasts. It begins with a brief discussion of the role of passenger forecasts in setting the price cap. This is followed by a summary of recent out-turns, including a comparison of previous forecasts with actual out-turns.

4.2 Passenger forecasts have had a significant effect on the Commission's price-cap calculations. This arises for a number of reasons:

- The relationship between opex and passenger numbers;
- The relationship between commercial revenues and passenger numbers;
- The relationship between capital expenditure ("capex") and passenger numbers; and
- The calculation of the per passenger price cap itself.

4.3 The focus of this chapter is the actual passenger forecast itself. The chapters below on opex and commercial revenues discuss further the relationship between those building blocks and passenger numbers.

Recent out-turns

4.4 In recent years Dublin airport has seen a substantial increase in passenger numbers. The trend in total passenger numbers since 2001 is shown in **Figure 3**, along with the DAA's latest projections for 2008 and 2009. In consultation with DACC, the DAA is currently in the process of revising its current forecasts, we discuss this further below. In previous determinations, the Commission has used the DAA's passenger forecasts when calculating the price cap. The Figure also compares the 2005 forecast with out-turns for 2006 and 2007 and the DAA's latest projections for 2008 and 2009 (included in the out-turn line).

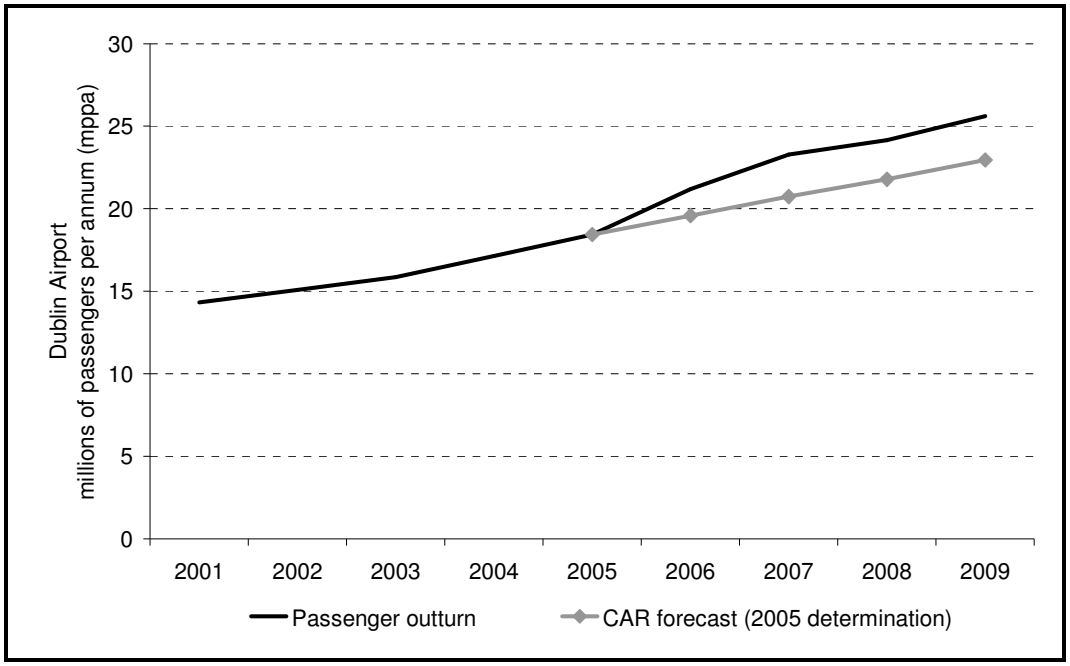

Figure 3 Trend in Dublin airport passenger numbers since 2001

Source: DAA.

4.5 The DAA projects passenger numbers by the end of 2009 to be approximately 3.6 million ahead of the 2005 projection. This contrasts with the experience during the first determination, where the DAA's forecast over-estimated demand at Dublin airport. Table 3 compares the passenger forecasts underlying the price-cap calculations since 2001 with out-turn. Between 2001 and 2007 the DAA's passenger forecasts have, on average, exceeded out-turns by less than 100,000 passengers per annum.

	Passenger forecast used in price cap calculation	Out-turn passenger numbers	Difference between out-turn and forecast
2001 – 2002*	15.9m	14.9m	-1.0m
2002 – 2003*	16.7m	15.9m	-0.8m
2004	17.6m	17.1m	-0.5m
2005	18.6m	18.5m	-0.1m
2006	19.6m	21.2m	1.6m
2007	22.9m	23.3m	0.4m
Total 2001 - 2007	111.3m	110.8m	-0.4m

Table 3: Passenger forecasts versus out-turn, 2001–2007

Notes: (*) 2001 – 2002 and 2002 – 2003 refers to regulatory years. Figures subject to rounding

4.6 The Commission's understanding of the DAA's current forecast is that it is based on a combination of modelling output and judgemental factors. The judgemental approach, whereby an internal DAA forecasting group meets on a regular basis, forms the basis for short-term forecasts (one-to-two years out). Air fares and feedback from airlines on their own passenger forecasts also feed into these discussions. Further into the future, the longer-term forecast relates growth in passenger numbers to projected changes in GDP.

4.7 The DAA and a group of its users, known as the Dublin airport Capex Committee ("DACC"),[12] began a process of engagement on capex and other issues in May 2008. As part of this process DACC members and the DAA convened a working group to discuss passenger forecasts. The aim of the working group, as set out in the working group terms of reference (drafted by the DAA and DACC), is *"…together to develop a traffic scenario for Dublin airport which both DAA and DACC consider reasonably represents traffic projections in the light of current market position".*

4.8 At this stage, the Commission is interested in parties' views on the approach it should take to forecasting future passenger numbers for the purposes of setting the next price cap. It is also interested in any evidence parties have on how various factors may influence passenger numbers.

4.9 For example, the Commission is interested in the effect the proposed new air travel tax is likely to have on passenger numbers at Dublin airport. In his Budget Statement of 14 October 2008, the Minister for Finance, Mr Brian Lenihan, TD, announced this new tax will come into force from 30 March, 2009. The general rate of the tax will be €10 per passenger, with a lower rate of €2 for shorter air journeys (those up to and including 300 kilometres). While there are some exemptions – e.g. young children, crew members and disabled passengers – the tax will apply to the vast majority of passengers using Dublin Airport from March 2009. A number of groups in the tourism and air travel sectors have criticised the imposition of this tax, claiming that it will have a significant negative impact on passenger traffic, though the Commission is not aware of any supporting analysis quantifying the likely effect.

Issues – passenger forecasts

- What do parties think are key drivers of passenger growth trends at Dublin airport?
- Are parties able to provide robust empirical evidence on the strength of the relationship between passenger numbers and any specific drivers? If not, can they suggest information that the Commission might collect in order to quantify possible relationships?
- What forecasts might the Commission use to project values for other drivers thought to influence passenger trends? For example, if the Commission concluded that GDP growth or oil prices have been important drivers of passenger volumes at Dublin airport, what values should it assume for these series beyond 2009?

[12] DACC membership includes a number airlines, groundhandlers and transportation companies that currently use Dublin airport, including: Aer Lingus, AOC, Aviance, bmi, British Airways, Cityjet, DAUC, FedEx, the Irish Association of International Express Carriers (IAIEC), the International Air Transport Association (IATA), Lufthansa, Ryanair, SAS, Servisair and Sky Handling Partners (SHP).

5. Operating Expenditure

5.1 This chapter reviews the DAA's opex needs. It looks at performance over the current regulatory period, and seeks to identify certain issues that may be relevant when forecasting the level of opex for the next regulatory period.

5.2 In setting an opex allowance the Commission needs to determine what level would suffice in 2010, and what assumptions to make about how the costs will evolve over time. Hence, the Commission is interested in the potential for the DAA to 'catch-up' with the frontier of airport efficiency, if necessary, as well as the potential for the frontier to 'shift' to a more efficient level over time. Both catch-up and frontier-shift effects will be considered when forecasting opex.

5.3 This chapter discusses:

- Trends in opex at Dublin airport over time, including recent DAA forecasts of future opex;
- The role that passenger numbers or 'scale effects' play in calculating opex and evaluating performance;
- General macroeconomic trends and forecasts, including productivity measures that might be used to forecast opex; and
- Methodological and policy issues associated with setting an opex allowance for the next regulatory period, including the Commission's current thinking on a system of rolling efficiency incentives.[13]

Analysis of opex out-turns

5.4 As part of the 2005 determination the Commission forecasted average annual opex during the 2006-2009 regulatory period of approximately €185m per annum (in 2008 prices). Factored into this allowance were efficiency improvements of approximately 5% over the regulatory period.

5.5 Figure 4 below summarises the evolution of DAA opex from 2001 to 2007 with the latest DAA forecasts for 2008 and 2009 respectively. Also included for reference is the Commission's 2005 opex forecast which it factored into the price cap. That the DAA's expenditure has exceeded the 2005 opex forecast after 2006 is not surprising given that passenger numbers, which affect opex levels, have exceeded the 2005 forecast.

[13] Commission for Aviation Regulation (2008) "CP4/2008 Efficiency Incentives (rolling schemes) at Dublin Airport". Available for download under 'Policy Papers' in the airport charges section of the Commission's website www.aviationreg.ie

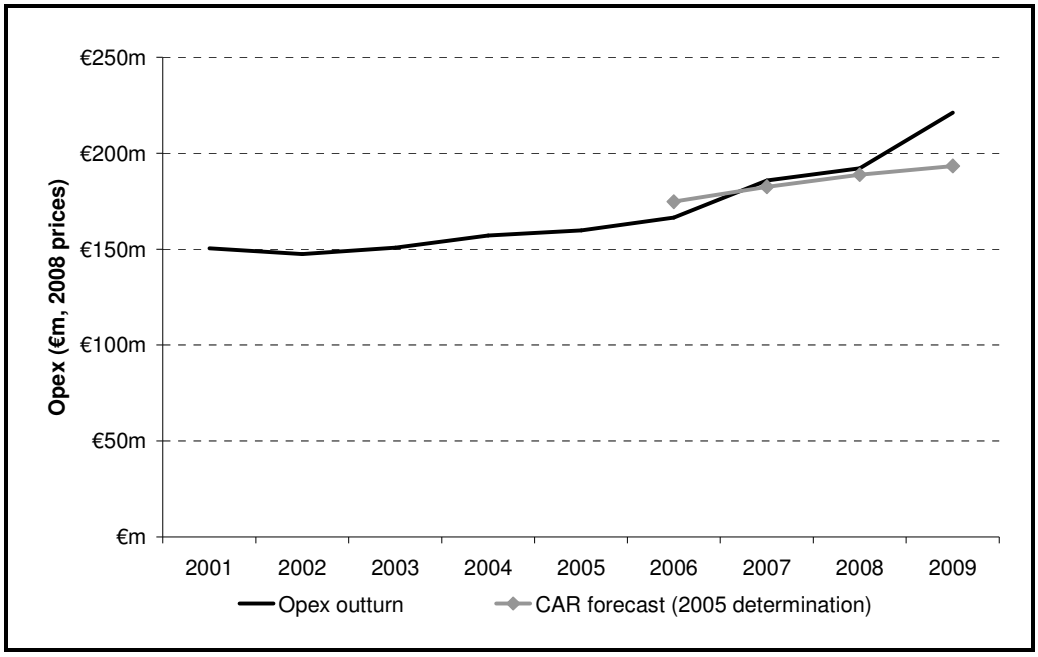

Figure 4 Operating costs, 2001 to 2009

Source: DAA

5.6 Figure 5 below relies on the same out-turn data as Figure 4 but presents it on a per passenger basis. Also included are the Commission's 2005 per passenger opex forecasts. Unit opex has declined over time from €10.50 in 2001 to €7.98 in 2007, the last year for which audited regulatory accounts are available. The extent to which scale effects might account for the fall in per passenger opex is discussed later in this chapter.

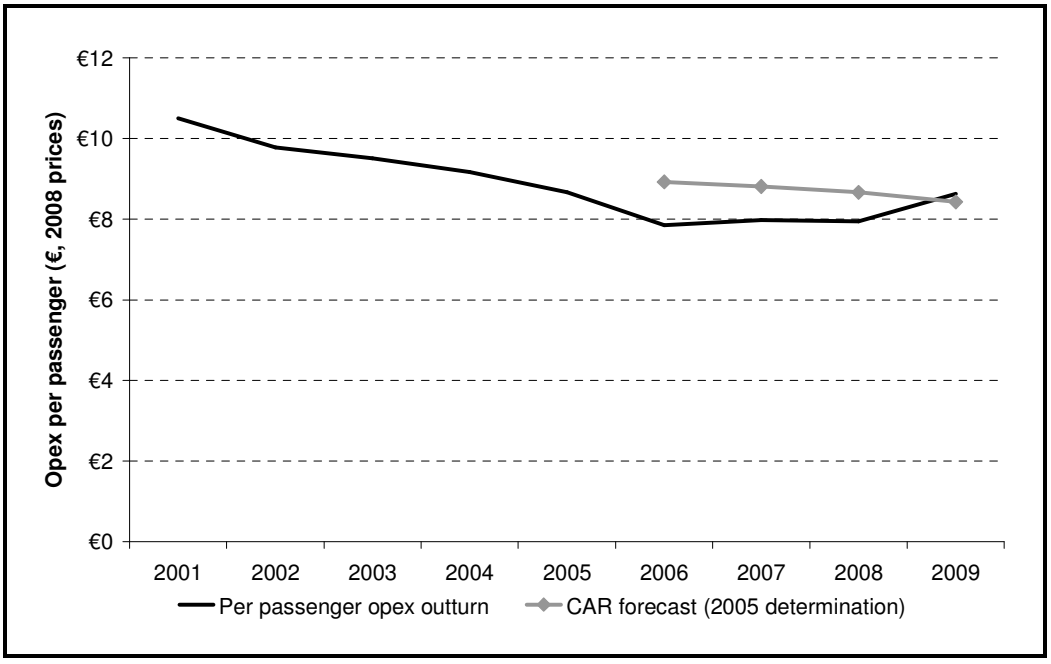

Figure 5 Per passenger operating costs, 2001 to 2009

Source: DAA

5.7 A breakdown of the main opex categories at Dublin airport for 2001 and 2007, taken from the DAA's regulatory accounts, is provided in Table 4 below. The final column shows the percentage change in operating costs since the introduction of economic regulation in 2001 up to 2007.

	2001	% of Total Opex	2007	% of Total Opex	% Change (2001—07)
Staff costs					
Wages and salaries	77.8m	52%	106.1m	57%	36%
Other staff costs	12.4m	9%	13.4m	8%	8%
Net staff costs	**90.3m**	**60%**	**119.4m**	**64%**	**32%**
Materials and services					
Energy	2.7m	2%	3.6m	2%	34%
Maintenance and cleaning	13.7m	9%	13.2m	7%	-4%
Insurance	2.8m	2%	4.3m	2%	55%
Rates	9.8m	7%	11.9m	6%	21%
Marketing and related costs	6.2m	4%	5.7m	3%	-7%
Regulatory levy	2.6m	2%	3.0m	2%	16%
Other	22.4m	15%	24.6m	13%	10%
Total	**60.2m**	**40%**	**66.4m**	**36%**	**10%**
Total Opex	**150.5m**	**100%**	**185.8m**	**100%**	**23%**
Total Passengers	14.3m		23.3m		62%
Opex/Passenger	**€10.50**		**€7.98**		**-24%**

Table 4: Dublin airport Operating costs, 2001-2007

Source: DAA

5.8 Staff costs accounted for 64% of total opex in 2007, mainly accounted for by wages and salaries (57% of total opex). These costs have increased by 32% over the period, while passenger numbers have grown by 62%. Given the relative importance of labour costs in total opex, one may wish to know the productivity of each unit of labour at Dublin airport. Table 5 below shows the relationship between the number of full-time employees and the number of passengers at Dublin airport.

	2001	2002	2003	2004	2005	2006	2007
Passengers	14.3m	15.1,m	15.9m	17.1m	18.4m	21.2m	23.3m
Average FTEs	1,522	1,537	1,497	1,526	1,589	1,734	1,879
Passengers/FTE	9,417	9,814	10,592	11,231	11,611	12,224	12,393

Table 5: Dublin airport passengers and FTEs

Source: DAA

5.9 As with unit opex the raw data appear to suggest significant productivity improvements with an overall improvement in productivity of 32%. This equates to 4.68% per annum on a compound annual growth rate ("CAGR") basis.[14] However as with unit costs, simple comparisons may tend to overstate actual productivity improvements due to scale effects. As passenger numbers rise, passengers/ FTE will also tend to increase as not all positions require additional staff if passenger numbers increase. Productivity measurements need to control for scale.

5.10 Related to staff productivity measurements are labour costs per passenger. Table 6 below documents the change in labour costs over the period 2001-2007. Costs increased annually by 5% during the period, while on a per passenger basis they experienced an annual decline of 3%.

	2001	2002	2003	2004	2005	2006	2007	Annual Growth (CAGR)
Wages and salaries	77.8m	77.7m	76.2m	79.0m	84.7m	92.1m	106.1m	5%
Other staff costs	12.4m	12.8m	11.2m	19.7m	19.5m	13.2m	13.4m	1%
Net staff costs	90.3m	90.5m	87.3m	98.7m	104.2m	105.3m	119.4m	5%
Passengers	14.3m	15.1m	15.9m	17.1m	18.5m	21.2m	23.3m	8%
Wages and salaries per passenger	€5.43	€5.15	€4.80	€4.61	€4.59	€4.34	€4.55	(3%)
Net staff costs per passenger	€6.30	€6.00	€5.51	€5.76	€5.65	€4.97	€5.13	(3%)

Table 6: Dublin airport labour costs 2001-2007

Source: DAA

5.11 The next section considers the relationship between opex and passenger numbers. We then discuss approaches for assessing what the efficient levels of opex for the DAA might be for a given level of passenger numbers. Combining these assumptions about scale effects and the scope for productivity savings with a forecast for passenger numbers will allow the Commission to forecast the DAA's future opex needs.

Scale effects

5.12 Given that airport operations may enjoy economies of scale it is important to separate out scale effects from genuine efficiency effects. To control for any scale effects when analysing the DAA's opex performance between 2001 and 2007 requires elasticity assumptions. An elasticity represents the proportionate change in one variable (e.g. opex) with respect to a change in another variable (e.g. demand). For example if passenger numbers changed by 10% and there was an elasticity of 0.45 that would imply that cost would increase by 4.5%.

5.13 Table 7 shows the implications for assessing the DAA's efficiency of adopting a range of different elasticity assumptions. For example, using the Commission's elasticity assumption in the 2005 determination of approximately 0.45, the actual traffic growth from 2001-2007 of 62% would have implied a 28% increase in opex due to the growth in demand. This in turn would have implied a 21% decrease in unit opex attributable to scale effects. The 24% decrease in unit opex observed

[14] The CAGR gives the year-on-year growth rate of productivity over a specified period of time and describes the way productivity would have grown if it grew at a steady rate each year. It is calculated as follows: (Final year value/year 1 value)^(1/number of years) -1

over this period would suggest a 3% reduction in unit opex due to efficiencies or 0.48% per annum on a compound annual growth rate (CAGR), if 0.45 is the correct elasticity.

5.14 Assuming different elasticities would lead to different conclusions. For example, an elasticity of about 0.38 would be consistent with the hypothesis that changes in unit opex between 2001 and 2007 at Dublin airport were solely due to scale effects.

Elasticity assumption	Actual change in pax	Expected change in opex due to scale	Expected change in unit opex due to scale	Actual change	Change controlling for scale	Annual change (CAGR) controlling for scale
2001-2007						
0.00	62%	0%	-38%	-24%	14%	2.28%
0.35	62%	22%	-25%	-24%	1%	0.17%
0.38	62%	24%	-24%	-24%	0%	0%
0.40	62%	25%	-23%	-24%	-1%	-0.16%
0.45	**62%**	**28%**	**-21%**	**-24%**	**-3%**	**-0.48%**
0.50	62%	31%	-19%	-24%	-5%	-0.81%
0.55	62%	34%	-17%	-24%	-7%	-1.15%
1.00	62%	62%	0%	-24%	-24%	-4.47%
2001-2005						
0.45	29%	12.9%	-12%	-17%	-5%	-1.33%
2005-2007						
0.45	26%	11.8%	-11%	-7%	4%	2.09%

Table 7: Changes in unit opex, separating out scale effects

5.15 Similar analysis is possible when looking at labour productivity. The productivity performance reported earlier in Table 5 suggested labour productivity improvements between 2001 and 2007 of 32%. The weighted average elasticity of staff to passengers used by the Commission in its 2005 determination was 0.42. Using this elasticity would imply that scale effects alone would have realised productivity improvement of 27%. The remaining 5% would reflect 'actual' productivity improvements (0.78% per annum).

Elasticity assumption =0.42	Actual change in pax	Expected change in FTE's due to scale	Expected change in productivity due to scale	Actual change	Change controlling for scale	Annual change (CAGR) controlling for scale
2001-2007	62%	26%	29%	32%	3%	0.48%
2001-2005	29%	12%	15%	23%	8%	2.04%
2005-2007	26%	11%	14%	7%	-7%	-3.54%

Table 8: Changes in labour productivity, separating out scale effects

5.16 When discussing efficiency and performance techniques parties are invited to comment on whether and how the Commission may control for scale in forecasting the scope for efficiency and productivity improvements.

5.17 Parties are also invited to consider what the appropriate elasticities should be for Dublin airport's opex and staff levels. Recall that elasticity close to one suggests a one for one percentage increase in opex (or staff levels) and volumes. In contrast, an elasticity close to zero suggests that the relevant cost category does not vary with volumes: significant economies of scale exist. The elasticities used by the

Commission in its 2005 determination are listed in Table 9 below. The weighted average elasticities for costs and staff numbers used by the Commission were 0.45 and 0.42 respectively.

Staff category	Elasticity
Security	0.75
Retail	0.25
Other airport	0.25
Other corporate	0.25
Opex costs	**Elasticity**
Other retail expenditure	0.35
Rates	0.7
Insurance	1.0
Other airport expenditure	0.35
Other corporate expenditure	0.35

Table 9: Opex-passenger elasticities used by the Commission in the 2005 determination

Techniques for forecasting future efficiency improvements

5.18 The foregoing discussion reported the level of operating costs and input productivity achieved by the DAA since 2001. The DAA has achieved improvements in unit operating costs and labour productivity, some (or all) of which may have been achieved through scale effects.

5.19 The Commission is also interested in determining the level of operating costs to assume in 2010, and the potential for subsequent annual savings from that level, for a given scale of operation. It will explore setting a price cap based on assumptions about operating costs that require the DAA to `catch-up' with the efficiency frontier, if necessary, and to achieve a performance comparable with likely future shifts of that frontier.

5.20 There are a number of techniques available to the Commission to estimate what the efficiency frontier is and how that frontier may improve going forward. In 2005 the Commission relied on a 'bottom-up' analysis which examined the DAA performance on a process by process basis and identified potential for efficiencies.

5.21 An alternative (or complement) to this bottom-up approach would be to rely on top-down analyses, comparing the DAA's performance with trends elsewhere in the economy without forming a view of how efficiently the DAA manages individual processes. Such analyses might compare:

- Labour productivity against economy-wide performance;
- Firm-wide productivity against economy-wide performance; and
- The firm's efficiency and productivity against other airports.

The last of these options corresponds to the approach to assessing opex needs at Dublin airport that the Commission took in 2001.

5.22 Below we provide data on economy-wide trends using data from EU KLEMS database.[15] We also outline how firm-wide productivity may be estimated. Parties are invited to comment on whether and how the Commission might use such evidence in assessing the level of opex to allow the DAA when setting the next price cap. They might also identify other data sources which they think would be helpful in assessing the DAA's future opex needs. This includes data that would permit comparisons with other airports, if parties think such comparisons would be informative.

Economy-wide trends

5.23 In thinking about the DAA's opex needs, the Commission might be interested in the extent to which it can expect the firm to outperform, or underperform, economy-wide productivity growth. This is because under a CPI-X regime annual charges are indexed to the consumer price index and this index is directly affected by the rate of productivity improvement in the economy as a whole. For example, if economy-wide productivity is improving at a fast rate CPI will be lower than if productivity is growing slowly.[16] If a regulated firm's prices were indexed to CPI (with X equal to zero), it would have to match economy-wide productivity, in terms of opex per unit of output, to maintain the same level of profitability from one year to the next.

5.24 As a first approximation of possible productivity growth in the economy as a whole, Table 10 below sets out, in value-added terms, annual average total-factor productivity (TFP) and labour productivity growth in the State since 1995. TFP relates to improvements in total output *not* caused by increasing inputs (e.g. labour or capital) or economies of scale.[17] The data suggests an annual decline in productivity between 2001 and 2005 of 0.58%, as measured by value added.

Annual Changes (CAGR)		
Period	**TFP (value-added) Growth**	**Labour Productivity Growth (GVA per hour worked)**
1995-2005	0.85%	3.92%
2001-2005	-0.58%	2.55%

Table 10: Economy-wide and labour productivity

Source: EU KLEMS

5.25 One reason to include a non-zero value for X in the CPI-X formula is that the DAA does not use the same mix of factors of production as the general economy. Table 4 showed that 64% of the DAA's operating costs are labour-related, and this proportion is rising. One option in assessing the DAA's opex might be to compare the DAA's labour productivity trends with that of the economy as a whole.

5.26 Labour productivity has significantly exceeded TFP growth, and by definition capital productivity, suggesting the potential for labour intensive industries to out-perform capital intensive industries and the economy as a whole in productivity growth. Between 2001 and 2005 labour productivity, measured in gross value

[15] EU KLEMS is project established to create a database on measures of economic growth, productivity, employment creation, capital formation and technological change at the industry level for all European Union member states from 1970 onwards. Its membership consists of 15 organisations from across the EU, representing a mix of academic institutions and national economic policy research institutes and with the support from various statistical offices and the OECD. For more information see www.euklems.com.

[16] See First Economics (2005) "The scope for cost savings: why meeting regulators' efficiency targets is getting tougher", www.first-economics.com

[17] See Civil Aviation Authority (2004) "Supporting paper 4" in *NATS price control review 2006-2010, initial price cap proposals,* www.caa.co.uk

added per hour worked, grew by 2.55% (compared with 3.55% by the DAA as measured by output per FTE over the same period not controlling for economies of scale). More data on labour productivity (expressed as gross value added per hour worked) are presented in Table 11 below for the economy as a whole, as well as certain economic sectors for the periods 1970-2005, 1995-2005 and 2001-2005. For the transport storage and communications sector, GVA per hour worked improved by a lower amount than the economy as a whole, with an average annual improvement of 0.83% between 2001 and 2005.

	Annual Changes (CAGR)		
Gross value added per hour worked	**1970-2005**	**1995-2005**	**2001-2005**
Economy-wide	3.49%	3.92%	2.55%
Manufacturing	6.74%	8.20%	7.14%
Electricity Gas and Water Supply	3.56%	1.71%	-1.22%
Transport Storage and Communications	2.43%	1.99%	0.83%

Table 11: Economy-wide and sectoral labour productivity[18]

Source: EU KLEMS

5.27 Another rationale for not assuming that the DAA should perform in line with the economy as a whole would be because of evidence from 'nature of work comparisons'. Such analysis involves using productivity improvements in sectors of the economy that have similar characteristics to the firm in question and its business units.[19] For example in 2005 the UK Postal Services regulator published a nature-of-work analysis of Royal Mail. It divided Royal Mail's regulated business into a number of components and assigned weights based on the size of each component in relation to the regulated business. It then selected comparator sectors of the UK economy for which it estimated productivity growth rates. The comparators and relevant weightings are set out in Table 12 below. By comparing the productivity estimate with economy-wide productivity growth Postcomm formed an estimate of the potential for Royal Mail to outperform the economy going forward.

[18] Labour productivity estimates from the EU KLEMS March 2008 release are expressed as gross value added *per hour* worked. For estimates of output *per worker* see for example Tables 1 and 2.5 in the ESRI 'Medium Term Review 2008-2015' May 2008.

[19] See: Europe Economics (2003) *Scope for efficiency improvement in the water and sewerage industries,* report for Ofwat, www.europe-economics.com; Cambridge Economic Policy Associates (2003) *Productivity improvements in distribution network operators,* report for Ofgem, www.cepa.co.uk; LECG (2005) *Future efficient costs of royal mail's regulated mail activities*, report for PostComm, www.lecg.com .

Nature of Work	Weight	Comparators (Scenario 1)	Comparators (Scenario 2)
Network - delivery	40%	Distributive trades	Distributive Trades (excl. hotel & catering), financial and business services
Network - mail centres	30%	Distributive trades	Manufacturing
Management	7%	Electricity Gas and Water	Electricity Gas and Water
Vehicles	6%	Transport	Transport
Logistics	7%	Distributive trades	Transport and communications
IT	3%	Financial and business Services	Financial and business services
Property	8%	Construction	Construction

Table 12: Nature of work comparators, Royal Mail

Source: Postcomm

5.28 Parties are invited to identify any other reasons why it might be reasonable to assume productivity trends for the DAA that differ from the general economy, and what evidence might be relied upon to assess the magnitude of such deviations.

5.29 More generally, parties are invited to comment on the merits or otherwise of using 'top-down' methods for estimating labour and firm-wide productivity trends in setting opex targets for the DAA as an alternative to the bottom-up approaches relied upon by the Commission in 2005. Where parties think that bottom-up reviews are still necessary, they might also identify what analysis they think that the Commission should conduct.

Other issues

5.30 There are a number of specific issues relating to opex at Dublin airport that may have implications for any assessments of the DAA's opex needs going forward.

5.31 As indicated earlier in this report, the Commission does not currently know the operating arrangements for T2. The contract for operating the terminal may be awarded through competitive tender. If this occurs the Commission is currently inclined to rely on the contract price as its forecast of terminal opex. However if there is not a competitive tender the Commission may need to rely on alternative approaches to estimating the operating costs including benchmarking it against terminals with similar characteristics. Parties are invited to comment on the Commission's current thinking. They should also outline in what way, if at all, the operation of T2 might affect how the Commission assesses opex needs for the rest of the airport.

5.32 Another atypical opex cost may involve costs incurred in providing assistance to Persons of Reduced Mobility ("PRM services"). The DAA has recently out-sourced the provision of PRM services to a third-party provider. The relevant EC Regulations require the DAA to establish any charges for these services in cooperation with airport users prior to their imposition, and to implement them in a transparent and non-discriminatory manner. The Commission is currently minded to regard the PRM charges as proposed by the DAA as an 'airport charge' which should fall within the airport charges price cap. The next determination will need to have regard to the operational income of the DAA, including income designed to fund the provision of assistance to passengers of reduced mobility. Parties are invited to comment on how the Commission should assess PRM-related costs in the context of economic regulation.

5.33 Parties are also invited to present their views on how Dublin airport City might affect the Commission's assessment of opex needs at Dublin airport for the purposes of setting a price cap. The costs reported in this chapter exclude the directly attributable costs of Dublin Airport City. Possible issues for the price cap relating to Dublin Airport City are discussed further in Chapter 9.

Rolling incentive schemes

5.34 In June 2008 the Commission issued a consultation paper which sought the views of stakeholders on the use of a system of 'rolling' incentives to incentivise efficiency.

5.35 The Commission sought feedback from stakeholders on certain issues:

- whether stakeholders agreed with the Commission's view that efficiency incentives can be distorted depending on the year in a regulatory cycle in which an efficiency is identified;
- whether a system of rolling incentives would be a suitable remedy;
- whether there should be a symmetric system of rolling penalties to act as a disincentive against underperformance;
- whether the effect that passenger numbers have on operating costs should be controlled for; and,
- whether all opex categories should be included in a possible scheme.

5.36 The Commission received responses from the DAA and DACC. The responses are summarised in Annex 1. Both responses were supportive of a system of rolling incentives for opex. The Commission therefore proposes to compare the DAA's annual opex performance over the next regulatory period with the determination forecast, with a view to estimating rolling allowances that might be included when making subsequent airport charges' determinations. Consistent with the submissions received, the Commission proposes to only have regard to 'outperformance' when measuring rolling allowances. For the purposes of transparency, it is proposed that rolling allowances will be calculated and reported on an annual basis. When calculating the rolling allowance, the Commission will endeavour to control for deviations in passenger numbers or scale effects.

5.37 A final issue for resolution relates to the definition of opex for the purposes of rolling incentives. The DAA, in its submission, argued that non-controllable opex should be excluded. It claimed that 40% of non-payroll costs (equating to 16% of total opex) are outside of its control. By way of example the DAA cited energy costs, insurance costs, rates and the regulatory levy.

5.38 The Commission would welcome parties' comments on whether there are some categories of operating costs that should be excluded from a rolling scheme because they are outside the control of the airport operator.

Issues – operating expenditure

- What relationship do parties think exists between passenger numbers and opex? How significant are economies of scale?
- What approach(es) should the Commission take to forecasting the DAA's opex needs? Which categories of the DAA's opex, if any, should the Commission review in detail? What weight should the Commission give to evidence on productivity from other airports or other sectors of the economy?
- What categories of opex should be included in a rolling-incentive scheme?

6. Commercial Revenues

6.1 This chapter looks at the revenues collected by the DAA from engaging in 'non-regulated' or commercial activities at Dublin airport. It looks at the DAA's performance over the current regulatory period and discusses how the Commission might forecast future commercial revenue streams for the purposes of setting the price cap.

6.2 There is also a discussion of whether the Commission should continue with its approach to date of incentivising the DAA to maximise all revenues not included in the price cap. The Commission has done this by allowing the DAA to retain any out-performance against the Commission's forecasts of commercial revenues until the end of the regulatory period. During the current regulatory period some airport users have made representations to the Commission regarding the level of certain non-regulated charges at Dublin airport, for example car-parking charges. Additionally users have stated that for certain non-regulated activities, such as check-in desks, the current system of incentives may be inappropriate. The Commission issued a consultation document on the treatment of revenues from such activities earlier this year.[20] The chapter sets out the Commission's current thinking on this issue

Analysis of commercial revenue out-turns

6.3 As part of the 2005 determination the Commission forecasted average annual commercial revenues during the 2006-2009 regulatory period of approximately €152m per annum (in 2008 prices). The Commission's forecast made assumptions about improvements in per passenger revenues and the relationship between commercial revenues and passenger numbers.

6.4 Figure 6 below summarises the evolution of DAA commercial revenues since 2001 (including its latest forecast for 2008 and 2009). Also included is the 2005-2009 forecast of commercial revenues made by the Commission as part of its 2005 determination.

[20] See Commission for Aviation Regulation, "*CN2/2008: Access to Installations – Interaction with Airport Charges*", March 2008. Available for download under 'documents' in the Groundhandling Licensing section of the Commission's website www.aviationreg.ie

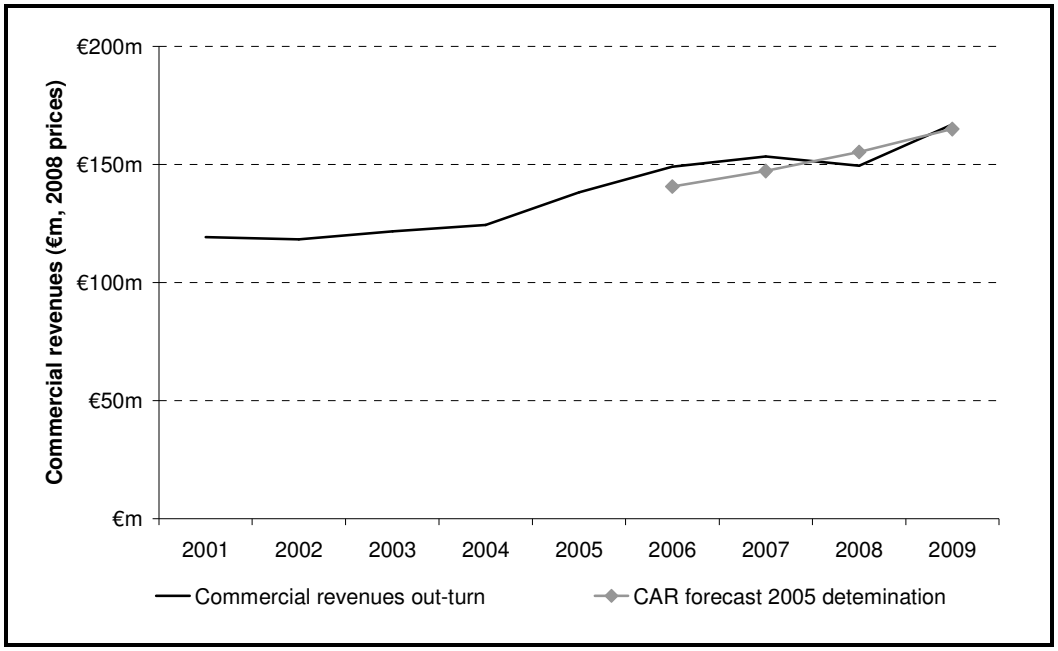

Figure 6 Commercial revenues 2001-2009 and forecast 2005-2009

Source: DAA out-turn for 2001-2007, DAA estimate for 2008 and forecast for 2009

6.5 In 2006 and 2007, the only years in the current determination period for which out-turn data are currently available, the DAA's commercial revenue yield exceeded the Commission's 2005 forecast. The DAA is forecasting a decline in its revenues in 2008 which will briefly bring it below the Commission's forecasts but envisages a recovery in 2009.

6.6 The DAA's commercial revenues are expressed on a per passenger basis in Figure 7 below. The DAA's expected per passenger out-turn remains below the Commission's 2005 forecast for the entire regulatory period.

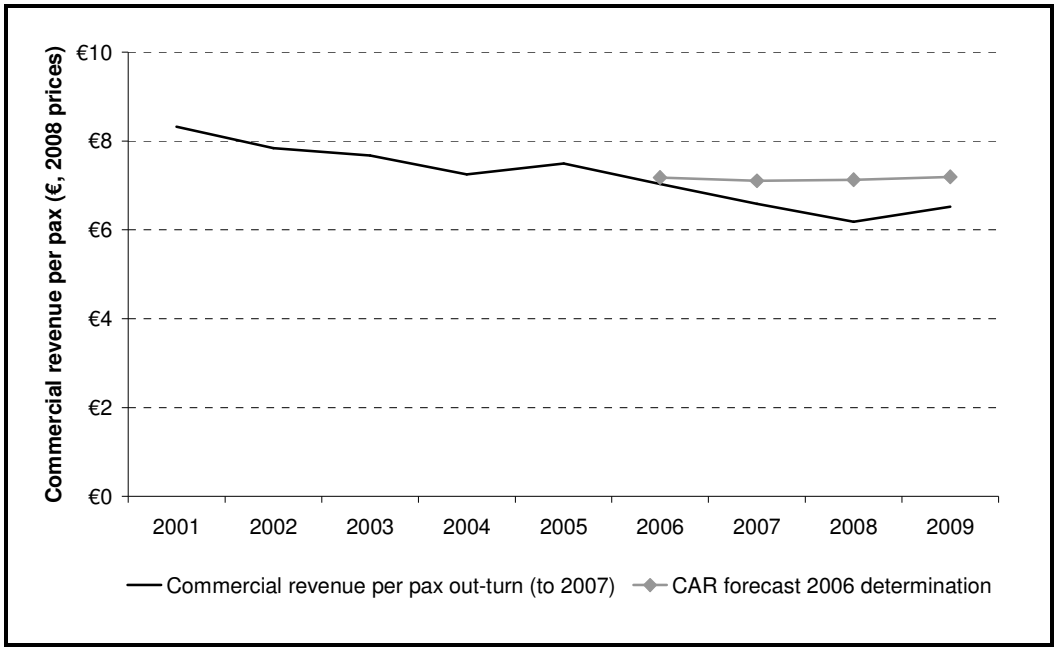

Figure 7 Per passenger commercial revenues 2001-2009 and forecast 2005-2009
Source: DAA out-turn for 2001-2007, DAA estimate for 2008 and forecast for 2009

6.7 The out-turn data to 2007 is further scrutinised in Table 13 below. Commercial revenues have grown from €228m in 2001 to €318m in 2007. On a per passenger basis they have declined from €8.36 to €6.60. As a share of total revenues at Dublin airport, commercial revenues have fallen from 54% in 2001 to 48% in 2007.

Total Revenues	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Airport charges	103.0m	97.1m	93.9m	110.0m	108.0m	139.9m	165.1m
Commercial revenues (gross)	168.6m	164.2m	163.5m	165.4m	180.3m	195.8m	204.5m
Cost of sales	-48.8m	-45.5m	-41.4m	-40.7m	-42.1m	-46.3m	-50.8m
Commercial revenues (net)	119.8m	118.7m	122.1m	124.8m	138.2m	149.5m	153.7m
Total	222.8m	215.8m	216.1m	234.8m	246.2m	289.4m	318.8m
Commercial revenues as % of total revenues	54%	55%	57%	53%	56%	52%	48%
Revenues per Passenger							
Airport charges revenue	7.19	6.44	5.92	6.42	5.85	6.60	7.09
Commercial revenue (net)	8.36	7.87	7.70	7.28	7.49	7.05	6.60
Total revenues	15.54	14.31	13.63	13.70	13.34	13.65	13.69

Table 13: DAA revenues 2001-2007 (€, 2008 prices)

Source: DAA

6.8 To form a view about what might constitute reasonable expectations for commercial revenues that the DAA might collect in the future, the Commission has previously relied on the following approach:

- Step 1: Set a baseline level of commercial revenues;

- Step 2: Make elasticity estimates to forecast annual revenue growth from increases in passengers; and,

- Step 3: Set annual targets for improvements in per passenger revenue yield.

6.9 The applications of steps two and three to step one gives the annual commercial revenues forecast. Stakeholders are asked to comment on the approach taken by the Commission to date as well as the possible continuation of such an approach. The following two sections discuss issues relating to scale effects (step 2) and the potential scope for improvements in the DAA's performance in generating commercial revenues (relevant for steps 1 and 3).

Scale effects

6.10 In forecasting commercial revenues the Commission makes an assumption about the relationship between changes in passenger volumes growth and commercial revenue growth, i.e. the elasticity of commercial revenues. The weighted average elasticity across all commercial revenue categories used by the Commission in 2005 was approximately 1.0, implying a one for one relationship between passenger growth and commercial revenue growth. This was based on individual elasticities, listed in Table 14, assumed for a number of different categories of commercial revenues.

Commercial revenue category	Elasticity
Retail sales non-EU	1.0
Retail sales EU	1.0
Other retail income	1.0
Car park revenue	1.0
Property revenue	0.5
Other airport revenue	1.0
Corporate revenue	1.0

Table 14: Commercial revenues-passenger elasticities used by the Commission in the 2005 determination

6.11 If the elasticity assumed by the Commission in 2005 was correct, then scale effects alone should have resulted in no change on a per passenger basis in commercial revenues between 2001 and 2007. The 62% increase in passenger numbers should have been roughly matched by a 62% increase in commercial revenues. However, as shown in Table 15 below, there was a 21% decrease in commercial revenues on a per passenger basis.[21] This could reflect declining performance over time, the use of an inappropriate elasticity estimate, or both.

6.12 To attribute all the changes in commercial revenues between 2001 and 2007 to changes in passenger numbers would imply an elasticity assumption of approximately 0.45.

[21] The table uses a similar methodology to that used in Table 7 in the opex chapter.

Elasticity assumption	Actual change in pax	Implied change in commercial revenues	Implied change in per pax commercial revenues	Actual change per pax	Relative per pax performance	Annual change (CAGR)
2001-07						
0.0	62%	0%	-38%	-21%	18%	2.74%
0.45	62%	28%	-21%	-21%	0%	0.05
0.5	62%	31%	-19%	-21%	-2%	-0.27%
1.0	62%	62%	0%	-21%	-21%	-3.82%
2001-05						
1.0	29%	29%	0%	-10%	-10%	-2.59%
2005-07						
1.0	10%	10%	0%	-12%	-12%	-12.08%

Table 15: Changes in commercial revenues and scale effects

6.13 Parties are invited to comment on the results in Table 15 and whether and how they should influence the Commission's forecast of commercial revenues for the next determination.

Techniques for forecasting future commercial revenues

6.14 As with opex the Commission is seeking the views of stakeholders on the analytical framework for calculating commercial revenues. To date the Commission has based DAA commercial revenue forecasts on a combination of benchmarking against other airports and bottom-up exercises. During the 2005 regulatory review the Commission retained the expertise of specialist consultants, Alan Stratford and Associates, who advised the Commission on the scope for improvement in the DAA's commercial revenue yield.

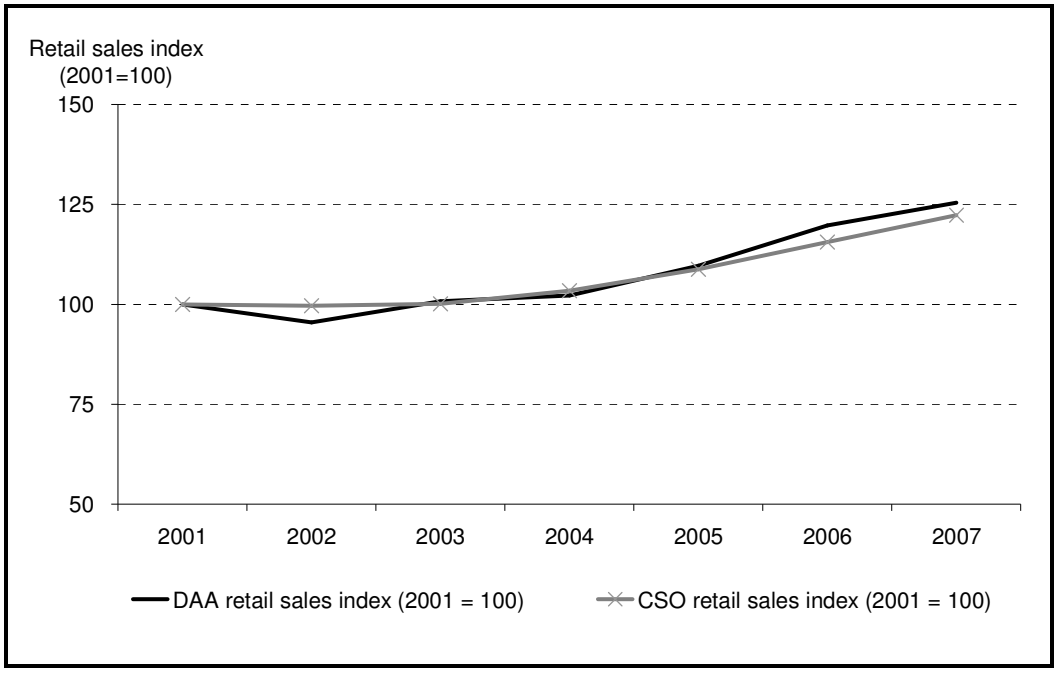

Figure 8 Growth in Dublin airport and economy wide retail sales (Base 2001=100)

Source: DAA

6.15 As with opex the Commission is also considering whether general macroeconomic data might inform future commercial revenue forecasts. For example, Figure 10 plots retail sales at Dublin airport and the Irish retail sales index (as reported by the CSO) for the period since regulation of airport charges commenced. In 2007 retail sales net of cost of sales contributed 28% of the DAA's commercial revenues (see Table 16). Parties are asked to comment on whether and how such evidence might be used when forecasting revenues from retail sales that the DAA might be expected to realise during the period of the next determination.

Category	Revenues	% of total commercial revenues
Total commercial revenues	153.4m	100%
Total net retail sales	42.2m	28%
Consisting of		
EU retail sales	25.0m	16%
Non-EU retail sales	17.3m	11%

Table 16: Dublin airport commercial revenues and retail sales in 2007 (2008 prices)

Source: DAA, all figures are net of cost of sales

6.16 More generally, parties are invited to identify any data sources that they think might assist the Commission as it assesses the scope for the DAA to generate commercial revenues at Dublin airport. Parties may wish to suggest data only relevant for certain individual categories of commercial revenues, such as those listed in Table 14. Alternatively, there may be data that parties believe relevant when considering total commercial revenues.

Incentives to maximise commercial revenues

6.17 An ongoing issue during the current determination period has been about whether it is desirable in all instances for the DAA to have an incentive to maximise commercial revenues. For example, a number of parties have queried recent increases in check-in desk fees, car-park charges and the airside office rents charged to airlines and groundhandlers.

6.18 The Commission's policy to date has been to allow the DAA to retain the profits for the remainder of the regulatory period when it out-performs the Commission's forecast for commercial revenues, regardless of the service or activity in question. The rationale for this is that by incentivising the DAA to maximise its commercial yields, users will ultimately benefit from lower price caps in subsequent periods.

6.19 One argument against this policy has been that some of the services generating commercial revenues, while not part of the bundle of services covered by the price cap, nevertheless should be subject to similar treatment.

6.20 As part of its market investigation into the BAA's supply of airport services the UK Competition Commission defined the relevant product market as including all aeronautical services supplied to airlines, including check-in desks and offices inside passenger terminals.[22] The Competition Commission took the view that the product that airlines purchase from airports is a bundle of services rather than a series of distinct products. If an airport were to have market power in the supply of bundled aeronautical services to airlines, an anomaly would arise if only some of these services were subject to price regulation. The airport would have the

[22] See paragraphs 21 to 24 of annex 3.1, Competition Commission (2008) *BAA Airports Market Inquiry, Provisional Findings*, www.competition-commission.org.uk.

incentive and the ability to increase the non-regulated aeronautical charges above the competitive level.

6.21 The Commission is open to suggestions about whether it should continue to set a price cap that provides the DAA with incentives to maximise revenues from all charges not defined as airport charges. If parties think there are categories of commercial revenues for which the Commission should alter its approach, two issues arise – how should the Commission treat these categories of commercial revenues in future price caps and secondly, should there be any retrospective adjustment in the forthcoming cap to address previous differences between forecasts and out-turns?

6.22 In considering a retrospective adjustment, parties are asked to identify any categories of commercial revenues for which the Commission should either make a 'claw-back' or 'compensation' due to variances between revenue forecasts and out-turns. In doing so, parties might also outline whether and how they think such an action would be consistent with the incentive properties intended for the current price cap.

6.23 Going forward, the Commission is willing to consider altering the price cap so that users assume more of the risks associated with variations in the amounts the DAA collects from certain categories of commercial revenues. Any deviation from the Commission's forecast for a category of commercial revenue might be included as an adjustment to the calculation of a later year's price cap. Parties are invited to identify those categories of commercial revenues, if any, for which they think such a change makes sense and the extent to which users through changes in airport charges, rather than the DAA, should benefit or lose when a category of commercials revenues yields more or less than was expected at the time of the determination.

Access-to-installation fees

6.24 The Commission has already issued a consultation document relating to how one category of commercial revenues, access-to-installation fees, might best be treated for the purposes of setting price caps.[23] That paper identified four possible changes to the current regime:

- Option 1: 'Airport Charges' redefined;
- Option 2: A commitment by the DAA on the level and timing of future increases in access-to-installation fees;
- Option 3: An assumption of full-cost recovery; and,
- Option 4: A revision to the price-cap formula,

6.25 The Commission received submissions from both the DAA and DACC. The submissions are available on the Commission's website and are summarised in Annex 1.

6.26 DACC suggested that the Commission broaden the scope of airport charges to include any services (including check-in desk fees) for which the DAA enjoys market power. The Commission does not have the authority to effect such a change, but it has notified the Minister for Transport of DACC's preference.

6.27 If there is no change in the definition of airport charges between now and the making of a determination, the Commission is minded to seek a commitment from

[23] Commission for Aviation Regulation, March 2008 "CN2/2008, interaction between airport charges and access to installation fees". Available for download on www.aviationreg.ie.

the DAA concerning check-in desk charges for the duration of the next cap. Certain issues arise which parties may wish to comment on:

- First, is the solution credible? If the DAA provided a price schedule, but subsequently sought to deviate from this schedule, how might the Commission respond given its statutory duties?

- Second, should any commitment be stated in terms of price or revenue? The Commission ordinarily makes revenue forecasts in its commercial revenue forecasts. If demand for check-in desks fell below forecast, a rigid price would prevent the DAA from achieving the agreed forecast revenues (and vice versa). A solution may be to agree a revenue forecast.

- Third, what should the Commission do if the DAA fails to provide a price (or revenue) commitment?

Other issues

6.28 The Commission is currently aware of two issues that have emerged since 2005 and which may be important for how it assesses commercial revenues for the next determination: T1X and Dublin Airport City. Parties are invited to identify other issues that they believe are material for any consideration of commercial revenues that the Commission undertakes.

6.29 In its 2007 interim review, the Commission decided that the capital costs of T1X would not affect airport charges.[24] This was consistent with the DAA's rationale for the project - that it would not affect airport charges because of the increased commercial revenues that the project would generate. The interim review placed the onus on the DAA to identify incremental commercial revenues attributable to T1X that should fund this project. Comments on how the Commission might assess such evidence are invited.

6.30 Dublin Airport City potentially has implications for a number of the building blocks used to estimate the price cap, including commercial revenues. A summary of some of the major regulatory issues relating to this project is provided in Chapter 9.

Rolling incentive schemes

6.31 In its consultation paper issued in June 2008 the Commission sought the views of stakeholders on the merits of a rolling incentive scheme for commercial revenue out-performance. Having considered the responses received, summarised in Annex 1, the Commission does not propose to implement a rolling scheme for commercial revenues as part of its 2009 determination.

[24] Commission for Aviation Regulation, July 2007 "CP6/2007 Final Decision of the Interim Review of 2005 Determination". Available for download on www.aviationreg.ie.

Issues – commercial revenues

- What relationship do parties think exists between passenger numbers and commercial revenues?
- How might the Commission forecast targets for commercial revenues that the DAA might collect during the next determination? What weight, if any, should be attached to evidence from the macro economy or from other airports?
- Are there any categories of commercial revenues for which the Commission should not provide the DAA with incentives to maximise the yield? If so, how should the Commission treat such revenues?

7. Capital Costs

7.1 This chapter discusses the capital costs building block of the price cap calculation. It begins with a discussion on the regulatory asset base (RAB). We then discuss the approach to depreciation. The chapter concludes with a discussion of the issues around estimating the DAA's regulatory cost of capital.

7.2 The Commission calculates capital costs for the price cap such that for a given project the total revenues accruing to the DAA equals the initial allowed capex, in present value terms. Over the lifetime of an asset, capital costs allow for a return of capital (a depreciation allowance) and a return on capital (the regulatory cost of capital or WACC). The accumulation of allowed capex over time, net of depreciation, is reflected in the value of the RAB.

7.3 Consequently there are three factors that jointly influence the calculation of capital costs:

- DAA capex and associated changes in the RAB;
- The approach to depreciating assets in the RAB; and
- The regulatory cost of capital.

The following sections consider each of these factors in turn.

Regulatory asset base

Opening RAB 2010

7.4 As well as considering future capex projects beyond 2009 and how associated capital costs might be remunerated, the Commission must also come to a view on the starting RAB for 2010. In order to do so, there are four key inputs/factors that the Commission must consider:

- What was the value of the starting RAB at the beginning of the current regulatory period?
- What is the level of allowed capex over the regulatory period, as determined by the Commission?
- What is the cumulative depreciation charge during the regulatory period as determined by the Commission?
- What is the DAA's actual capex over this period, and how should the Commission treat differences between allowed and actual capex spend?

This section provides information on each of these inputs.

7.5 The RAB is the value of accumulated capex which, at previous Determinations, the Commission has decided to allow the DAA to be remunerated for when making a determination. The starting RAB in 2006 was €682m in 2008 prices. The Commission reviewed the DAA's allowed capex for the 2006 to 2009 period at the time of the 2007 interim review. Table 17 below summarises the allowed capex proposals in the Commission decision in the 2007 interim review of the 2005 determination. The same information for total CIP allowance (€1,107) was presented at Table 5 in the final decision paper on the interim review.

	Capex Allowed (2006 prices)	Capex Allowed (2008 prices)	Trigger
CIP Projects not Related to T2 or Pier D `over-spend'	€384m	€420m	No trigger
T2 Associated projects	€141m	€154m	T2 ready for operations
Non-terminal T2 Main Projects (Pier E and Enabling works)	€203m	€222m	T2 ready for operations
T2 box 1	€278m	€304m	T2 ready for operations
T2 box 2	€101m	€111m	T2 ready for operations Total demand > 33mppa
Total CIP allowance	**€1,107**	**€1,212**	
Head office allocation	**€13m**	**€14m**	
Total including head office	**€1,120m**	**€1,226m**	

Table 17: Allowed capex 2006 – 2009

Source: Commission for Aviation Regulation.

Notes: Capex allowance excludes Pier D `over-spend' (relative to the capex allowance at the time of the 2005 determination) of €31m (2006 prices) as set out in the 2007 interim review.

7.6 The estimated opening RAB in 2010 is set out in Table 18 below. Triggers aside, the figures indicate that the starting RAB in 2010 will include a capex allowance for the period 2006-09 of €434m (€420m of non-T2 related capex plus €14m of head office capex). The total allowance for depreciation for the period 2006-09 is €207m.

Derivation of 2010 opening RAB	€m, 2008 prices
Opening RAB 2006	682
Allowed capex 2006 – 2009*	434
Regulatory depreciation 2006 – 2009*	-207
Closing RAB 2009	910
T2 Box 1 trigger	680
T2 Box 2 trigger	111
Opening RAB 2010 if T2 not ready for operations	910
Opening RAB 2010 if T2 ready for operations (passenger numbers yet to exceed 33m in a year)	1590
Opening RAB 2010 if T2 ready for operations and passenger numbers exceeded 33m in 2008 or 2009	1701

Table 18: Starting RAB in 2010

Source: Commission for Aviation Regulation.
Notes: (*) Allowed capex and depreciation is for all non-trigger related projects and excludes Pier D 'over-spend'.

Triggers

7.7 As summarised in Table 17, the Commission has committed to include €791m of capex (in 2008 prices) in the RAB, subject to the triggers as set during the 2007 interim review. The first trigger condition is "T2 ready for operations" and relates to T2 associated projects, non-terminal T2 main projects and T2 Box 1, with a second trigger for T2 Box 2 capex of "Total demand at the airport exceeds 33mppa". At the time of the interim review, the Commission stated that the implementation of these triggers would be the subject of the consultation during the 2010 to 2014 price cap.

7.8 Parties are invited to submit their views on the use and implementation of triggers for T2-related capex. In particular, parties are invited to comment on a formal definition of what "T2 ready for operations" should mean. The Commission also welcomes views on the use of triggers for future capex projects beyond 2009.[25]

Out-turn capex 2006-2009

7.9 Parties are invited to comment on what adjustments, if any, the Commission should make to the RAB where the DAA's actual capex has differed to the amounts previously allowed by the Commission. At the time of the interim review, the Commission observed that the DAA had spent more on the Pier D project that the Commission had previously included as a capex allowance. The Commission indicated that it would review whether or not to include additional costs of Pier D into the RAB at the time of the next determination. These costs, in 2008 prices, correspond to €34m.

[25] In responding to the above questions, parties may find it useful to refer to the Commission's Draft (CP5/2007) and Final (CP6/2007) Decisions on the 2007 Interim Review of the 2005 Determination. These papers are available on the Commission's website www.aviationreg.ie.

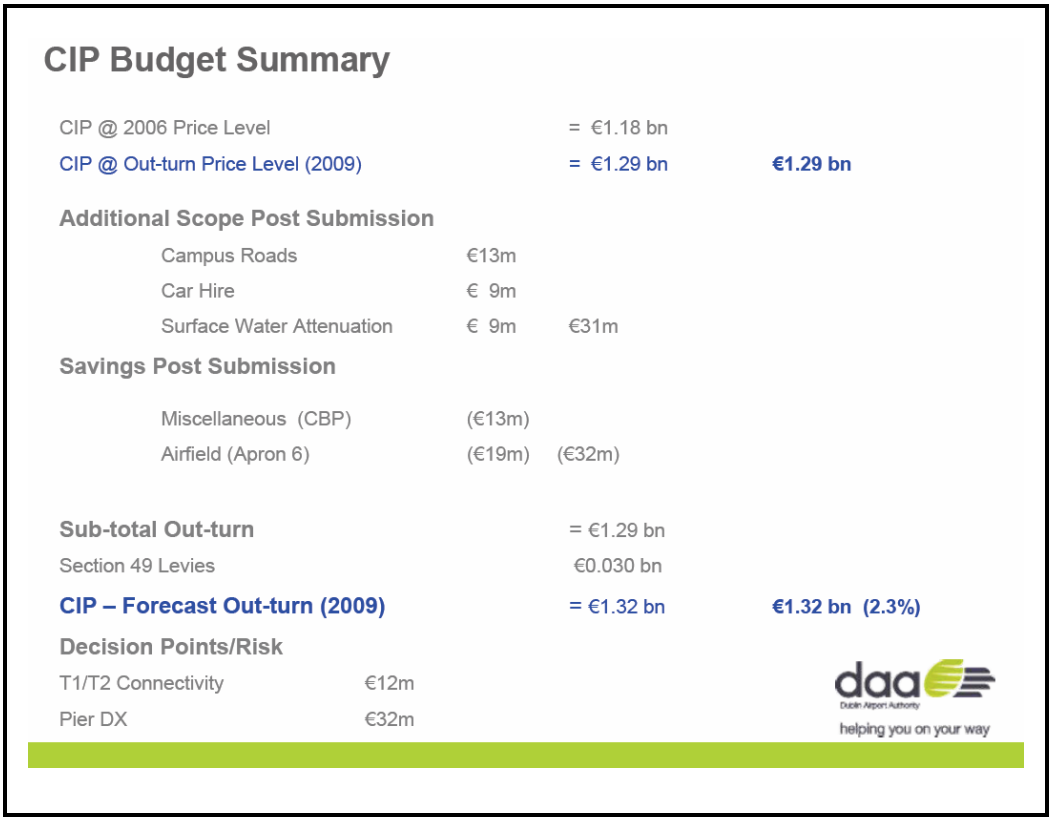

Figure 9: CIP 2006 Budget Summary

Source: DAA

7.10 At a meeting with DACC on 1 August 2008, the DAA presented an update on the current capital investment programme (CIP). Figure 9 shows a table from the DAA presentation provided at this meeting, entitled "CIP Budget Summary". The DAA appears to have realised savings for airfield and customs and border protection projects, but spent more than anticipated on campus roads, car hire and surface water attenuation. It also claims significant additional capex costs attributable to `Section 49 levies'.

Post-2009 capex

7.11 As noted in the introduction to this chapter, changes to the value of the RAB can affect overall capital costs. The value of the RAB can change in one of two ways: depreciation of assets in the RAB, and addition of new capex to the RAB.

7.12 The Commission published the timetable for the 2009 review on its website in March 2008.[26] This timetable states that in February 2009, the DAA is required to provide the Commission with full details of its post-2009 CIP. This information would include details of planned capital projects for the post-2009 period, including costs and timing of projects and evidence of user consultation or support. In addition, the Commission requested that, in advance of publishing this Issues Paper in October 2008, DAA provide the Commission with a list of capex projects expected to commence after 2009.

[26] http://www.aviationreg.ie/_fileupload/Image/Timetable_2009_Airport_Charges.pdf

7.13 The DAA has indicated to the Commission that given the current consultation with users it is not currently in a position to provide a list of capex projects for the post-2009 period.

7.14 In November 2007, the Commission published a discussion paper on "Guidance on the approach to capex consultation" (CP8/2007). The aim of this discussion paper was to provide guidance on how regulated companies might consult with users in advance of carrying out investment projects.

7.15 Following the publication of this paper, there were both DAA-led and user-led initiatives to develop a consultation forum. Since May 2008 there have been monthly meetings at a forum organised by DACC. While there has been some discussion of post-2009 capex between DACC and the DAA, no consensus has been reached on what capex projects, if any, might actually take place after 2009.

7.16 The Commission plans to publish the DAA's CIP when it is received and will afford parties an opportunity then to comment on whether and how such costs should be included in the price-cap calculations. Prior to that date, parties may wish to submit their views to the Commission on capex needs at Dublin airport for the post-2009 period. Moreover, if parties consider it helpful, the Commission would be amenable to organising and hosting a (series of) meeting(s) open to all interested parties to discuss capex needs at the airport. Parties should contact the Commission if they would support such a development.

7.17 In June 2008 the Commission issued a consultation paper which sought the views of stakeholders on the use of a system of 'rolling' incentive schemes. There was a mixed response on the use of such schemes to incentivise capex efficiency. At this stage, the Commission is minded to concentrate on developing a rolling incentive scheme for opex, and not to develop such a scheme for capex. The possibility of extending such a scheme to include capex may be considered at a later date.

Approaches to depreciation

7.18 The allowance for depreciation is an important factor that can influence the capital costs building block of the price-cap calculation. There are two factors that can influence the depreciation charge in any given year:

- The assumed asset life for assets in the RAB.
- The approach adopted to depreciating the assets themselves, e.g. straight-line or an annuity (equal revenues across time).

7.19 On asset lives, the Commission has previously adopted the same assumptions as the DAA uses preparing its accounts. These are described in Table 19 below. For example, at the time of the 2007 interim review, the Commission's cost modelling for T2 assumed an asset life of 40 years.[27]

[27] An excel model with the functionality to calculate the capital costs for T2 over time, including triggers and unitisation calculations, is available from the Commission on request.

Asset type	Asset life
Terminal complexes	10- 50
Airfields:	10- 50
Plant and equipment	2 – 20
Other property:	10 – 50

Table 19: Asset life assumptions, current policy

7.20 During the 2007 interim review the Commission discussed three approaches to depreciation: straight-line, annuities and unit-cost depreciation. For future capex, the Commission invites parties to comment on which approach to depreciation it should adopt and why. This includes welcoming thoughts on whether the approach to depreciation should vary by capex project and, if so, how the Commission should determine which approach to use for a particular investment.

Cost of capital

7.21 A key input to the price-cap calculation is the regulatory cost of capital as set by the Commission. The cost of capital, currently 7.4%, is the rate of return on the DAA's regulatory asset base and, as such, changes to it can have a significant impact on DAA revenues and cashflows. As it effectively caps the rate of return on future investment (for the period of the price control), the Commission's decision in this area can also affect DAA's incentives to undertake and fund future investment.

7.22 This section summarises the Commission's existing approach to estimating the cost of capital. The Commission invites views on whether there are specific cost-of-capital issues that it should consider as part of the 2009 review. This includes any views parties have on how recent events in the financial markets should influence the Commission's approach, if at all.

The Commission's previous approach

7.23 In the past, the Commission has set the cost of capital at a level that aims to be consistent with the amount that investors would receive for investing in alternative assets that have the same level of risk as the regulated company. The Commission previously has taken account of the return required for debt and equity investors by estimating the Weighted Average Cost of Capital (WACC) of the regulated company, defined as:

$$WACC = G * r_d + (1 - G) * r_e$$

where G is the gearing level calculated from net debt/ total value of debt and equity, rd is the cost of debt and re the cost of equity.

7.24 The Commission has in the past used a pre-tax real cost of capital as the basis for calculating the return on the RAB. As Table 20 shows, some regulators in the UK and Ireland have used other measures of the WACC, such as a post-tax real rate, a pre-tax nominal rate or a vanilla WACC.[28] Parties are invited to provide thoughts on whether one of these alternative approaches would represent a material improvement on using the pre-tax real cost of capital.

[28] A vanilla WACC is the real return which is based on a combination of the pre-tax cost of debt and a post tax cost of equity. In its June 2008 review of Network Rail's cost of capital the UK Office of the Rail Regulator used a Vanilla WACC.

Regulator	Decision	Year	Basis of WACC
ORR	Draft Determination Rail Review	Jun-08	Vanilla WACC
ComReg	eircom price review	May-08	Pre-tax nominal
Ofcom	Openreach Consultation Price Review	May-08	Pre-tax nominal
CAA	Heathrow Price Cap Decision	Mar-08	Pre-tax real
CAA	Gatwick Price Cap Decision	Mar-08	Pre-tax real
CAR	IAA Price Cap Decision	Mar-07	Pre-tax real
CAA	NATS	Dec-05	Pre-tax real
Ofwat	Water Price Review	Dec-04	Post-tax real
Ofgem	Electricity Distribution Price Control Review	Nov-04	Pre-tax, post-tax and vanilla real

Table 20: Some recent examples of cost of capital estimates by Irish and UK regulators

Source:CAA, CER, ORR, Ofcom, Ofgem, Ofwat, Comreg

7.25 The Commission has previously relied on the following formula to estimate the cost of debt used in the WACC calculation:

$$r_d = r_f + d_p$$

where r_f is the risk-free rate and d_p is the debt premium that investors need to hold the DAA's debt.

7.26 To estimate the cost of equity the Commission in previous determinations has used the capital asset pricing model (CAPM). The CAPM formula states that a company's cost of equity is determined by the risk-free rate (r_f), the equity-market risk premium (ERP) for the market as a whole and the company specific risk parameter, beta (β):

$$r_e = r_f + \beta \times ERP.$$

The equity-market risk premium is the difference between the expected return on the market portfolio and the risk-free rate of return.

7.27 The table below shows all the parameters that the Commission used to make its WACC calculations in 2001 and 2005. The 2005 Determination included a pre-tax cost of capital for the DAA of 7.4%. This was an increase of 0.4% on the 2001 figure.

Cost of capital component	DAA 2001	DAA 2005
Risk free rate (real)	2.60%	2.60%
ERP	6.00%	6.00%
Asset Beta	0.50	0.61
Equity Beta	0.93	1.10
Tax	13.50%	12.50%
Cost of equity (post-tax)	8.18%	9.20%
Cost of equity (pre-tax)	9.46%	10.51%
Debt premium	1.10%	1.10%
Cost of debt (pre-tax)	3.70%	3.70%
Cost of debt (post-tax)	3.20%	3.24%
Gearing	50.00%	46.00%
Debt-equity ratio	114.00%	86.00%
Real WACC (pre-tax)	7.00%	7.40%
Real WACC (post-tax)	6.00%	6.40%

Table 21: DAA cost of capital components 2001 and 2005

7.28 The rest of this section summarises approaches to deriving estimates for the individual variables listed in the table. It starts by discussing what estimates to use for two variables – the risk-free rate and the equity-market risk premium – that are not firm specific.

7.29 The Commission is open to suggestions that it use a different approach altogether to estimating all or parts of the cost of capital. For example, parties are invited to comment on the merits or otherwise of alternatives to CAPM, such as arbitrage pricing theory or multi-factor models, for the purposes of estimating a cost of equity to use for regulatory purposes.

Forward looking risk-free rate

7.30 In 2005, the real risk-free rate of interest was estimated by the Commission as 2.6%, using the yield on German government bond rates as a proxy for the nominal risk-free rate plus estimates of the inflation risk premium for Germany, the UK and Ireland. Table 22 outlines a range of estimates of the risk-free rate from recent regulatory decisions.

Regulator	Comments	Data relied on	Risk-free rate
ORR (2008)	Real	UK index linked gilts	2.00%
ComReg (2008)	Nominal	Yields on Irish & German government bonds across range of maturities	4.75%
Ofcom (2008)	Nominal	Yields on UK nominal and real 5 year gilts	4.20 - 4.60%
CAA (2008)	Real	Historic trends in 5 & 10 year maturity index linked gilts & forward rates to mid next regulatory period	2.50%
CER (2007)	Real		1.70 – 2.20%
CAR (2007)	Real	10 year Irish bond rate & Irish inflation rates	1.84%
CAA (2005)	Real	UK government index linked bonds	2.50%
Ofwat (2004)	Real	UK government index linked medium term yields	3.00%
Ofgem (2004)	Real	UK government index linked gilts	3.00%

Table 22: Estimates of the risk-free rate

Source: CAA, CER, ORR, Ofcom, Ofgem, Ofwat, Comreg

7.31 Estimates of the risk-free rate may be based on historical data on liquid financial instruments perceived to have minimal default risk, such as US Treasury bonds, German government bonds, UK Gilts or Irish Government bonds. An alternative would be to use swap rates.

7.32 Another option is to set the risk-free rate with reference to estimates made by other organisations, such as other regulators or investors.

Equity-market risk premium (ERP)

7.33 In general, estimates of the ERP may be based on one or more of the following approaches: historical data on equity returns, regulatory precedent, surveys of investors' expectations and ex-ante deterministic models, such as the Dividend Discount Model and the Arbitrage Pricing Theory.

7.34 In its 2005 Determination of airport charges at Dublin airport, the Commission estimated that the ERP was 6%. In reaching this estimate, the Commission relied mainly on data on historical returns and, to a lesser extent, regulatory precedent. Table 23 shows recent estimates of the ERP by other regulators.

Regulator	Data relied on	ERP
ORR (2008)	Long term estimates of returns on UK equity, dividend growth model, reference to City financiers	5%
ComReg (2008)	Data presented by Dimson, Marsh & Staunton, Irish regulatory precedent and ComReg's previous Determination	6%
Ofcom (2008)	Extrapolated observed & adjusted equity risk premia, used the dividend growth model and surveyed user and academic expectations	4.5 - 4.75%
CAA (2008)	Historical data showing the difference between the realised return on equities over the r_f & forward looking data relating to investors' expectations of the ERP	4.5%
CER (2007)		4 – 5%
CAR (2007)	Long run series of ex-post equity returns & reference to academic & practitioner studies	5%
CAA (2005)	Long run series of return on equity	5%
Ofwat (2004)	Arithmetic average of return on equity with reference to Smithers' Report	5%
Ofgem (2004)	Historical return on global equity returns, survey data	4.5%

Table 23: Estimates of the equity risk premium from Irish and UK regulators' estimation of the cost of capital free rate

Source: CAA, CER, ORR, Ofcom, Ofgem, Ofwat, Comreg

Beta

7.35 The Commission estimated a beta of 1.1 in its calculation of the DAA's cost of capital in 2005. In general, there are two methods available to estimate the equity beta of a firm:

- Direct estimation using a measurement of a firm's historical returns; or,
- Indirect estimation using comparator firms' historical returns.

7.36 The DAA is not a publicly listed company. Therefore, in the past the Commission has relied on the second approach, taking account of the impact of observable differences in systematic risk between the regulated company and comparators, with particular reference to the BAA's share price movement. The approach taken in 2005 cannot be replicated because BAA is no longer a listed company, having de-listed in summer 2006. Parties are invited to suggest alternative comparator companies that the Commission might use to estimate a beta for the DAA.

7.37 Alternatively, parties are invited to consider whether there are any reasons why the riskiness of operating Dublin airport relative to the market has changed significantly since 2005: is there any reason to expect the beta now to be different to the beta used in 2005?

Cost of debt

7.38 The Commission estimated that the DAA's cost of debt in 2005 was 3.7%, including a debt premium of 1.1%.

7.39 The debt premium was estimated in 2005 as the difference in the yield on the DAA's ten-year euro-denominated bonds and the yield on German ten-year government bonds. The bonds that were used in 2005 to estimate the DAA's debt

premium expire in 2011. The level of the DAA's debt is likely to rise in the near future as it funds T2 and related investments; this may affect the returns demanded on DAA debt.

7.40 Another approach to assessing the debt premium for the DAA is with reference to the debt premium included in yields on the corporate bonds for a number of comparator firms with an appropriate credit rating. What credit rating to use is itself a policy decision. During the current regulatory period, the DAA's financial profile has improved as a result of strong traffic growth, the sale of the Great Southern Hotel group and the sale of shareholdings in Hamburg and Birmingham airports. In December 2007 Standard & Poor's (S&P) removed the negative outlook on the DAA's single A credit rating that applied during the last determination.

Gearing

7.41 For the 2005 estimation of the cost of capital, the Commission used the DAA's actual gearing levels of 46% as at December 2004. Some regulators, such as the ORR, Ofwat, ComReg and the CAA, have used an assumed or notional level of gearing rather than the regulated company's actual gearing levels in its calculations of the cost of capital.

7.42 An estimation of the DAA's gearing level in 2009 using actual forecasts for net debt and net equity amounts to approximately 37%.[29] Is it appropriate for the Commission to continue to use actual levels of gearing or should it use notional levels?

Issues – capital costs

- What should be included in the RAB? How might the trigger that T2 "be operationally ready" before the first tranche of costs for this project are included in the RAB be defined in practice?
- What approach to depreciation should the Commission take?
- How should the Commission determine a cost of capital for the DAA?

[29] The DAA's 2009 estimate of closing group debt is used as a proxy for debt and the DAA's 2009 estimate of tangible fixed assets is used as a proxy for equity.

8. Financial Viability

8.1 This chapter discusses matters relating to the Commission's statutory objective to set a price cap that enables the DAA to operate and develop Dublin airport in a sustainable and financially viable manner.[30]

8.2 The following bullets summarise the Commission's previous thinking on how it satisfies this statutory objective:

- The Commission seeks to enable the DAA to maintain an investment grade for its debt for the purposes of operating Dublin airport. It is satisfied that an investment grade is sufficient to allow the DAA adequate access to funds. This does not imply that the Commission must act in such a way as to ensure the DAA receives a single A credit rating from S&P. In assessing the financial viability criterion, the Commission has historically analysed profitability and overall debt at the DAA Group level.

- In setting the price cap for a given determination, the Commission is keen to provide a solid foundation for lender confidence. This does not imply that the regulatory regime, and associated price cap, will protect lenders against general business risks.

- In assessing the financial viability of the DAA, the Commission has analysed several financial ratios, notably the FFO (Funds from Operations):debt ratio, one of the financial ratios used by S&P in rating DAA debt. The Commission recognises that analysis of financial ratios only provides a partial picture of the overall financial health of a business, and it is important to take due account of other genuine business risk factors.

8.3 Figure 10 shows the trend in the FFO:debt ratio over the period 2003 to 2009 (2008 and 2009 are DAA forecasts provided to the Commission in September 2008). The ratio has improved over time, such that in 2007 the ratio of 52% stood well in excess of the 15% level identified by the DAA as the minimum ratio necessary to maintain its investment grade status.

[30] See Section 22(4) State Airports Act 2004

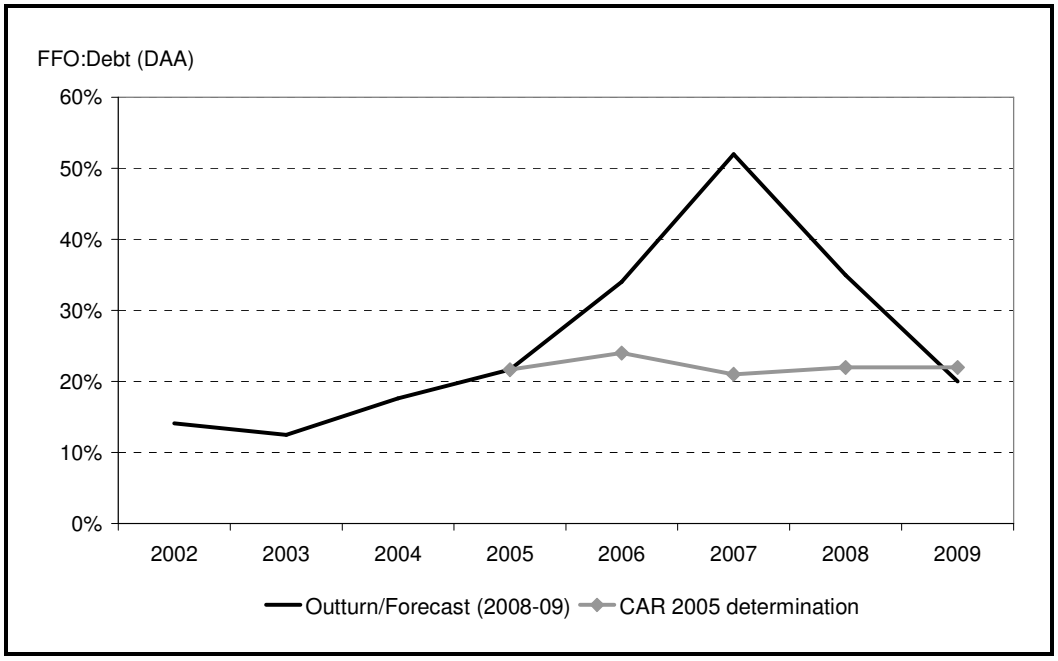

Figure 10 DAA FFO:Debt ratio 2003 – 2009

Source: DAA

The Commission's future approach

8.4 The Commission is seeking the views of interested parties as to whether the current approach to assessing the financial viability of the DAA is appropriate. Are there other factors which the Commission should consider?

8.5 For example, parties are invited to comment on whether and how the following issues might affect the way the Commission meets it statutory objective relating to financial viability:

- The break-up of the three state airports, and in particular how this might affect the DAA's debt position; and,
- The relevance of non-airport assets or investments in assessing DAA's financial viability, e.g. investments in hotels or the Dublin Airport City project.

9. Other Issues

9.1 The preceding chapters of this report sought the views of users on issues relating to the traditional 'building blocks' that are used to calculate the price cap. This chapter sets out some other issues that do not fit neatly into one of the previous chapters but on which the Commission wishes to consult with stakeholders.

9.2 The issues listed herein are not necessarily a complete list and any omission does not imply a deliberate action by the Commission. Stakeholders are encouraged to suggest other issues.

Cargo

9.3 Along with charges levied in respect of runway usage, parking and passenger processing, charges levied for the transportation of cargo are incorporated within the definition of airport charges. The DAA does not at present levy a cargo-specific charge and instead levies runway and, where appropriate, parking charges on cargo carriers. Notwithstanding the lack of a cargo-specific charge the Commission currently has in place a sub-cap on cargo charges which exists to protect cargo carriers in the event that such a charge is introduced.

9.4 The origins of the cargo sub-cap date back to the 2001 determination when the Commission introduced both a cargo and an off-peak runway sub-cap. Whilst the off-peak runway sub-cap was not retained in the 2005 determination, the cargo sub-cap was retained and is annually increased on a CPI+X basis.

9.5 Given that cargo operators are levied the same airport charges as commercial airlines the revenues from the cargo operators contribute to the total revenues earned by the DAA from regulated charges. However the cargo operators do not add to passenger numbers at the airport. This increase in revenues without an increase in passengers will increase the per-passenger yield earned in a given year, all else equal.

9.6 As a consequence, there may be incentives for the airport to favour an aircraft carrying passengers over an aircraft carrying cargo. Stakeholders are asked to consider if such a 'bias' exists in practice and whether it needs to be remedied. In considering remedies stakeholders may consider the following:

- Should the Commission continue with the status quo of a cargo sub-cap, despite there currently being no cargo charge?
- Should the Commission discontinue the cargo sub-cap in its next determination and instead set only an overall cap on airport charges?
- Should the Commission introduce a new scheme or mechanism to ensure equal incentives towards passenger and cargo aircraft? If so, stakeholders are invited to make proposals.

9.7 Parties may also wish to consider if the current contribution toward the airport's total allowable costs made by cargo carriers compared with airlines is appropriate. Would other approaches lead to a more equitable and efficient outcome having regard to the Commission's statutory objectives?

General aviation

9.8 As with the discussion on cargo above, the per passenger price-cap may not be structured in a way that considers other aircraft that use the runway and other facilities at Dublin airport, for example private jets and other non-commercial aircraft. Parties are invited to submit any views they have on whether the price

cap as currently structured positively or negatively discriminates against general aviation users at Dublin airport. They might also suggest proposals that would remedy their concerns.

Dublin Airport City

9.9 The DAA has proposed to develop land near Dublin airport for industrial, research and educational purposes, a development referred to as 'Dublin Airport City'. It is currently envisaged that up to €4 billion will be invested over a twenty-year period. It is not clear at this stage whether the project will be financed by the DAA and, if so, how.

9.10 The project potentially has implications for a number of the regulatory building blocks. The Commission has typically only included revenues from activities with a sufficient 'nexus' to the regulated activities. A key first question therefore is whether the project should have any bearing on how the Commission sets a price cap for the next determination. The Commission does not normally treat projects in the single till in a asymmetrical way. That is to say it does not normally exclude assets from the RAB where it includes the commercial revenues and vice versa.

9.11 Therefore parties are asked whether the project should be included in or excluded from the single till. In doing so the following issues should be considered:

- Some of the proposed development would use land that is currently in the RAB. What should the Commission do in the event that the project is/ is not included in the single till?
- How should the Commission have regard to the costs already incurred in the airport city project in setting an opex forecast for the next regulatory period?
- How should the risks involved in this project be considered when estimating the DAA's cost of capital?

9.12 The project also raises some questions that might have relevance when thinking about the Commission's statutory objective to enable the DAA to operate Dublin airport in a financially viable and sustainable manner. If the Commission is persuaded that the project should be excluded from the regulatory till, are there any actions that the Commission and/or the DAA might take to credibly ring-fence the Dublin airport assets so that any risks associated with the Dublin airport City project (or any other non-regulatory activity of the DAA) does not threaten operations of the Airport itself?

9.13 The potential risks of such a project also prompt more general questions about how the Commission might proceed in the event that the DAA encountered financial difficulties. For example, under what circumstances, if any, would it be reasonable to accelerate the depreciation profile for DAA assets in an NPV neutral manner when calculating the price-cap? Such an approach would shift the relative burden from future users to current users.

Price-cap compliance

9.14 The Commission assesses compliance by the DAA with its price cap determination on an annual basis. Each year the Commission collects detailed data from the DAA on the revenues collected in respect of each of its airport charges as well as the annual passenger throughput.

9.15 Each annual compliance statement, typically published in December of a given year, assesses compliance with the preceding year's cap. Where the actual per passenger yield in the preceding year exceeded the price cap the Commission

adjusts the cap for the following year to return, with interest, the over-collection of charges back to users. Therefore an over-collection of charges in a give year is returned to users two years later through a reduction to that year's cap. The Commission treats under-collection of charges in a symmetric manner.

9.16 Over and under recovery of charges are currently treated in this manner regardless of the level of over and under-recovery. In addition the same rate of interest is applied to over and under recoveries when adjusting future caps.

9.17 The current system has allowed the DAA to set its airport charges on an annual basis without the need to make ex post adjustments if it identifies that its annual yield is not in line with expectations. This removes the need for the DAA to alter charges mid-season in order for it to achieve its desired yield.

9.18 The Commission invites parties to comment on whether the current system should be retained. Would parties prefer that the DAA is required to adjust individual charges within the year so as to realise per-passenger revenues at or below the annual price cap every year? Or would they prefer the certainty of knowing what the structure and level of charges will be for the year, even when it gives rise to the possibility that in some years the DAA will collect per-passenger revenues from airport charges that exceed that year's annual price cap?

9.19 Parties may also consider a system that treats over and under-recovery in an asymmetric manner. A scheme of this kind may involve adjustments to future caps only when the DAA has previously over-collected. Alternatively asymmetric interest rates could be used in adjusting annual caps for earlier over or under recovery.

10. Responding to the Issues Paper

10.1 The Commission would like to hear the views of interested parties in relation to the issues discussed in this report. Respondents are asked to support any views and comments expressed in submissions with relevant evidence.

10.2 Responses to this consultation paper should be titled "Response to Airport Charges Issues Paper" and should be received no later than 18 December and should be sent to

Commission for Aviation Regulation
3rd Floor
Alexandra House
Earlsfort Terrace
Dublin 2.

- By email to info@aviationreg.ie
- By fax to 00-353-1-6611269

10.3 Respondents should be aware that the Commission is subject to the provisions of the Freedom of Information legislation. It is the usual practice to place all submissions received on our website. If submissions contain confidential material, it should be clearly marked as confidential, and a version of the submission should be provided which can be used for publication

10.4 The Commission may also include the information contained in submissions in reports and elsewhere as required. Ordinarily, the Commission does not edit this material. Any party submitting information to the Commission shall have sole responsibility for the contents of such information and shall indemnify the Commission in relation to any loss or damage of whatsoever nature and howsoever arising suffered by the Commission as a result of publication or dissemination of such information either on its website, in its reports or elsewhere.

10.5 While the Commission uses best endeavours to ensure that information on its website is up to date and accurate, the Commission accepts no responsibility in relation to and expressly excludes any warranty or representations as to the accuracy or completeness of the contents of its website.

ANNEX 1: Responses to Earlier Consultation Papers

A1.1 During 2008 the Commission consulted with its stakeholders on three issues which may affect the next determination on airport charges. The consultations related to:

- Quality of service issues at Dublin airport;[31]
- Efficiency incentive issues at Dublin airport with a focus on a system of 'rolling incentives';[32] and,
- How to link to revenues from access to installation charges, e.g. check-in desk fees, with the general price cap.[33]

A1.2 This annex summarises the submissions received in response to each of the consultation papers. The Commission's current thinking on each of the consultations as well as further issues for consultation are set out in the main report. Its thinking on rolling efficiency incentives is discussed through the operating and capital cost chapters as well as the chapter on commercial revenues which also sets out the Commission's current thinking on the access to installation fees consultation. Quality-of-service issues are discussed in a stand alone chapter within the main report.

Quality of service at Dublin airport

A1.3 The Commission published a consultation paper on the regulatory approach that could be taken towards quality of service at Dublin airport in June 2008. All comments on interested parties' satisfaction or otherwise with the current approach taken towards quality of service monitoring at Dublin airport was encouraged. The paper was structured around some questions about how quality of service should be defined and measured plus whether there is a role for financial incentives to motivate the delivery of certain quality standards.

A1.4 The Commission received nine responses to its consultation paper, including two from members of the Portmarnock Residents Association. The following summary of the responses is structured on the main issues in the consultation paper.

How to define and measure quality of service?

DAA

A1.5 The DAA recommended that quality of service is defined from the viewpoint of the individual passenger, as they are the customers of all companies at the airport plus pay the costs associated with using airport facilities and services. It was suggested that the Commission take account of the related costs of quality monitoring in terms of any change to the levels of airport charges. Also, the DAA thought that commercial revenues may decline if passengers have less time to spend money at the airport as a result of a reduction in service quality. The DAA asked that the opex budget includes resources to ensure quality of service is maintained to allow them to have the flexibility to react to downturns in performance.

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[31] Commission for Aviation Regulation, (2008). *Quality of Service at Dublin Airport, Commission Paper 3/2008*. See the Commission's website www.aviationreg.ie for further details.

[32] Commission for Regulation, (2008). *Efficiency Incentives (Rolling Incentive Schemes) Commission Paper 4/2008*. See www.aviationreg.ie for further details.

[33] Commission for Aviation Regulation, (2008). *Access to Installations – Interaction with Airport Charges, Commission Notice 2/2008*. See www.aviationreg.ie for further details.

A1.6 Reference is made to the DAA's participation in the ACI Airport Service Quality Survey. The DAA compared Dublin airport against Zurich, Brussels, Copenhagen, Athens, Oslo, Stockholm, Stansted, Manchester, Vienna, Melbourne and Vancouver, as these airports are considered to be part of a similar peer group in terms of passenger volume, passenger profile and macro issues. The DAA referred to some key service areas which they focus on as a result of the output from the ACI Airport Service Quality Survey. These service areas form the basis of a customer survey which is carried out on a quarterly basis. The results from the surveys are subject to internal audit and provide information on consumer satisfaction within the airport. Recent results from the Q1 2008 survey show an improvement in overall satisfaction with the airport.

A1.7 The DAA suggested that the Commission should not prescribe areas for service quality improvement but leaves it to the DAA and informed parties to make a joint plan of action.

A1.8 The DAA recommended that service quality should be measured using metrics that are soundly based, statistically robust and are related to issues which the DAA controls or has direct responsibility for. It was pointed out that the DAA may not have responsibility for some services at the airport, such as delays because of the IAA's radar problems.

A1.9 The DAA suggested that the metrics are based on the performance targets agreed between the DAA and airline users as part of the existing service level agreements. The results should then be subject to a discussion between the regulator and the regulated company to determine whether mitigating circumstance influenced the results. It also pointed out that the AOC will not agree to the identification of individual companies in the reports that detail actual performance against the agreed service level agreements.

A1.10 In addressing the issue of whether the metrics should be externally audited, the DAA stated that the data produced by the regulated company is likely to be more reliable than any data gathered by the regulator. It would agree in principle with any external validation measurements, depending on their cost effectiveness.

A1.11 The Commission was asked to consider the procurement of an operator of T2 which already stipulates certain standards in the consideration of any quality metrics.

DACC

A1.12 DACC viewed quality of service for both airlines and passengers as being quite similar, as both groups require access to infrastructure, ease of access, value for money, minimal processing times and the availability of essential services and amenities associated with efficient airports globally.

A1.13 DACC suggested that quality of service should be monitored using similar categories to the CAA's quality metrics which distinguishes between the services provided to passengers and airlines. DACC supported the introduction of a service level agreement that is enforced by the Commission.

Forfas

A1.14 Forfás stated that benchmarking of target standards would be useful. All indicators of service quality should be under the control of Dublin airport. Forfás suggested that quality of service indicators are a mix of spatial and service standards. The metrics should broadly depend on access to stands, metres squared per passenger and wait times. It was also suggested that standards

should be set for maximum wait times at security. It was thought necessary to review the quality standards used in benchmarking over time.

A1.15 Forfás recommended that the needs of business users are a key consideration in defining quality of service, as 20% of last year's passengers were business passengers. It was suggested that the Commission include measures of quality that are likely to matter to business users such as spaces for reading, using laptops, making telephone calls, wi-fi availability and power outlets for electronic equipment.

A1.16 Forfás suggested that benchmarking of food and retail prices against out-of-town shopping centres should be considered as a service quality indicator.

IBEC

A1.17 IBEC stated that the quality of airports can have a significant influence on the Irish economy, society and its competitiveness. It was shown that Ireland's air infrastructure is ranked 30th globally despite a large growth in passenger numbers.

A1.18 IBEC suggested that a comprehensive list of metrics to take account of passenger satisfaction is used at Dublin airport, such as the quality aspects that are in the ACI Service Quality Survey. It also suggested that the Commission look for synergises between the metrics currently gathered by the DAA and any proposed metrics.

ITIC

A1.19 The ITIC recommended that service quality is consistent with the needs and wants of all airport users, including Ireland's 8 million visitors of which over 70% use Dublin airport. The focus is on the needs of the airline passenger that pay the airport charges.

A1.20 The ITIC noted that service quality has been poor at the airport for a number of years because of the historic physical infrastructure at the airport plus the conflict that arises between some carriers and the DAA on the subject of airport charges.

A1.21 The ITIC thought that there was a strong case for some form of independent benchmarking to measure service quality in order to ensure that Dublin airport is meeting its objectives, such as using the ACI Service Quality Survey. The ITIC would not like the measures in the ACI survey to be replicated by another survey

NCA

A1.22 The NCA suggested that the DAA monitors a number of service quality measures at Dublin airport through surveys of its customer's experience. Twelve quality monitors were suggested as possible contenders for measuring service quality. The NCA suggested that only measures that are the sole responsibility of the DAA should be included in any survey of consumer satisfaction.

Tourism Ireland

A1.23 Tourism Ireland viewed the ACI Airport Service Quality Survey as providing good definitions of service quality. The ACI Survey could provide results which could be used to benchmark the performance of Dublin airport against other destinations which compete with Ireland for visitors. It was recommended that the ACI methodology is enhanced by widening the survey to include visitors arriving at the airport as the current ACI survey focuses on departing passengers.

Portmarnock Residents Association

A1.24 Matt Harley suggested that passenger walking time could be a service quality indicator at Dublin airport. He noted that this aspect of quality is included in the ACI Survey. It was pointed out that Pier D has resulted in an increase in the amount of walking that a passenger must do at Dublin airport to get to their boarding gate, if their flight departs through that pier. The moving walk ways were sometimes out of order.

A1.25 Barry Hall agreed with Mr Harley's comments and supported a focus on the average passenger walk throughout the airport facilities. He gave an example from his own personal experience of the difficulty experienced by a disabled member of his family in getting to Pier D.

Quality of service, financial incentives and the price cap

DAA

A1.26 The DAA stated that the effectiveness of price cap regulation in promoting economic efficiency could be reduced by the regulator becoming involved in operational issues. At this stage of the regulatory regime, the DAA believed it to be premature for the Commission to consider a formal link between the DAA's price cap and quality of service. The DAA recommends that a measurement system of all aspects of service quality is in place before the introduction of a formal link with the price cap. This would allow time to test that the outputs are robust.

A1.27 The DAA did not support a formal incentive mechanism for service quality as they do not have any evidence of a problem with quality of service at Dublin airport that would justify the costs and distortions that they would associate with the introduction of additional regulatory instruments. The DAA stated that a formal link to the price cap might encourage too narrow a focus on certain aspects of service quality.

DACC

A1.28 DACC suggested that quality of service is treated in a cost neutral basis from both an airline and a passenger perspective. If the DAA fails to meet or exceed the agreed quality standards on a consistent basis, then penalties should be imposed such as a rebate of airport charges where the service failure has led to the delay or cancellation of flights.

A1.29 Financial rewards were regarded as not being suitable for the determination of airport charges as the achievement of quality standards by the DAA should be the norm with no need for incentives.

Forfás

A1.30 Forfás recommended that a service quality indicator based on the service level agreements between Dublin airport and carriers should be included in the future price cap. It was also recommended that periodic reports of the quality of service results should be published and displayed in a prominent position in the terminal buildings. The introduction of an agreed level of compensation and rewards would result in quality of service becoming a useful tool in the regulation of Dublin airport. The amount at stake for breaches of agreed standards should be higher than the amount allowed for the surpassing of standards. The data used to support the compensation and reward scheme should be independent, easily measurable and fully auditable.

IBEC

A1.31 IBEC welcomed a debate on the establishment of a link between quality of service and airport charges. IBEC recommended that the Commission focus on establishing an effective and appropriate mechanism for measuring service quality before beginning discussions on linking the performance of service quality with airport charges.

ITIC

A1.32 The ITIC viewed the inclusion of quality of service into the price cap as next to impossible and would result in the creation of unnecessary administrative burdens. The ITIC also had concerns that there would not be any favourable impact on service levels, which are best addressed by the DAA working closely with the airlines.

A1.33 The ITIC stated that the establishment of a formal link between airport charges and service quality might make the attainment of adequate availability of capacity of an internationally acceptable standard, almost impossible, as the regulator might increase the complexity of the airport charges process.

NCA

A1.34 The NCA recommended that quality of service is included as part of the price cap calculation. It would like the prices that consumers pay to fully reflect the quality of the services that are available to use at the airport. The amount of the price cap that should reflect the delivery of service quality and be an amount that is sufficient to promote a significant improvement in quality of service over time. The NCA did not support a bonus scheme in the price cap to reflect service quality.

Portmarnock Residents Association

A1.35 Matt Harley stated that a charge/penalty should be imposed on the airport per passenger-kilometer walk as this could create an incentive on DAA to design their infrastructure with some concern for passenger welfare.

How to determine the appropriate services level

A1.36 It was suggested by the DAA that any disagreement between airlines about the appropriate service standard is addressed by the Commission by focusing on passengers' needs.

A1.37 DACC recommended that the Commission make the DAA more accountable for the provision of agreed service quality standards for which both airlines and passengers are currently paying without the benefits of the agreed service quality. Differences of opinion between airlines and passengers could be sorted by introducing quality standards on a cost neutral basis. The DAA should not be allowed to use service standards as a revenue generating opportunity. DACC stated that the DAA justified unnecessary capex by alleging that there is a service quality shortfall in the airport. This, in DACC's view, is because there are strong incentives under the regulatory regime to overspend on capex.

A1.38 Forfás suggested that the setting of suitable penalties and rewards will address the trade-off between the charges and service quality.

A1.39 ITIC recommended that service quality at Dublin airport reflects the overall positioning of the Irish product. It suggested that a balance is struck between the needs of the airlines while making facilities comfortable for passengers.

A1.40 The NCA recommended that the Commission address any differences of opinion between different parties at the airport.

Rolling efficiency incentives

A1.41 The Commission published a consultation on rolling efficiency incentives in June 2008. The Commission received submissions from the DAA and DACC. The comments in the DAA and DACC submissions are summarised below

DAA

A1.42 The DAA accepted the theoretical proposition underlying rolling efficiency incentives. It also supported the introduction of a scheme in practice in respect of opex but not for capex. In addition it suggested a limited scheme in respect of commercial revenue incentives.

A1.43 In its submission the DAA stated that the introduction of a rolling incentive scheme may have the positive effect of removing any possible bias on the part of a regulated firm in regard to the timing of efficiency improvements but the scheme itself could have a potential negative impact in terms of high associated administration costs, reduced flexibility or higher regulatory risk.

A1.44 It agreed in principle with a system of rolling incentives for opex but expressed a few concerns regarding its practical implementation:

- The scheme may add to the complexity of the regulatory model;
- It may increase regulatory risk and burden; and,
- It may involve a higher degree of regulatory intervention by the Commission.

A1.45 The DAA stated that a regulated firm will only have an incentive to outperform regulatory forecasts where the expenditure forecasts are recognised as acceptable. It proposed that the Commission agree a mutually acceptable forecast upon which a rolling scheme could be based.

A1.46 The DAA stated that a rolling incentive scheme must be 'asymmetric', i.e. it should be applied to out-performance only and not underperformance.

A1.47 The DAA also added that any scheme should only apply to operating costs within its control. It stated that non-payroll costs account for 40% of operating costs and that 40% of non-payroll costs are outside of its control. By way of example it cited energy costs, insurance costs, rates and the regulatory levy as non-controllable costs.

A1.48 The consultation paper on efficiency incentives contained a discussion on how to treat cost variances resulting from unanticipated volume (i.e. passenger) changes. In its submission the DAA stated that unanticipated increases in passenger numbers increase its opex and that unanticipated decreases do not necessarily reduce its operating costs. It proposed that operating costs associated with above forecast passenger numbers should not be regarded as underperformance for the purposes of rolling efficiency incentives.

A1.49 In respect of commercial revenues the DAA accepted the theoretical proposition regarding a rolling scheme for commercial revenues but expressed considerable doubts regarding its implementation. It stated that the bulk of its commercial revenues came from activities in competitive markets and that a system of rolling incentives "*may add to the complexities of these markets"*. As with opex it did not support a system whereby underperformance would be rolled forward into future caps.

A1.50 Despite its concerns it did however allow for the possibility for a "*limited application of the rolling incentive mechanism to commercial revenues where a particular specifically identifiable commercial initiative with clearly defined potential benefits warranted the application of such a scheme*".

A1.51 The DAA did not support a rolling scheme to reward capital cost outperformance.

DACC

A1.52 In its submission DACC welcomed the Commission's proposal to introduce rolling incentives in respect of opex. It expressed some concerns related to ensuring that challenging opex targets are set before rolling incentives are applied and that quality standards are ensured.

A1.53 DACC did not support a system of rolling 'disincentives' to penalise underperformance. Instead it made some suggestions as to how to treat opex out-turns that exceed forecasts:

- Where the DAA was genuinely inefficient these cost should never be recovered and future opex forecasts should be based on efficient costs rather than actual costs;
- Where it exceeded the cost forecast but nevertheless analysis demonstrates that it was in fact efficient, actual costs should be the basis of the next price control;
- Where costs exceeded forecast due to higher than foreseen service levels, actual costs may be the basis for future price controls where the higher service is something that users value.

A1.54 DACC did not comment on whether all opex categories or only a subset should be included in a system of rolling incentives. It did respond to a related issue discussed in the consultation paper regarding the treatment of short run costs that may arise with achieving efficiencies. It opposed any exclusion of such costs from an ex post assessment of efficiency for the purpose of calculating efficiencies to be rolled forward. DACC argued any scheme should ensure that the DAA has an incentive to maximise the value of efficiencies and minimise the costs of realising such efficiencies.

A1.55 In relation to passenger numbers, DACC stated that low opex costs due to lower than expected passenger numbers should not be regarded as efficiency while higher costs due to higher than expected passenger numbers should not be treated as inefficiency.

A1.56 In relation to commercial revenues DACC also accepted the logic in applying a system of rolling incentives to commercial revenues but expressed significant reservations about introducing a scheme in practice. DACC's view is that the DAA already dedicates more terminal space to commercial activities than it thinks is justified or in the interests of users and it opposed a scheme that may encourage the DAA to dedicate more space to commercial ventures. Additionally it expressed the view that the benefits accruing from commercial revenues occur because airlines bring passengers to the airport and stated that "*if DAA were to over-perform its commercial revenue target we do not believe that it is appropriate for DAA to retain that "benefit" for 5 years. Rather we consider that the benefit (in terms of lower airport charges) should be passed on at the earliest possible opportunity*".

A1.57 DACC also referred to its submission to CN2/2008, see paragraph 6.25 above, and re-stated its view that the DAA holds a position of market power in the supply of

certain non-regulated activities, namely check-in desks and space rentals for self service kiosks. It called for the revenues from these services to be included in the set of regulated charges covered by the price cap and added that "[by] i*ncluding these charges within the rolling adjustment without having them in the price cap would only exacerbate this problem. In principle, DAA could beat its commercial revenue target by raising these charges to airlines, but then the rolling adjustment process would allow it to retain this "benefit" (i.e. not reduce airport charges).*" DACC stated that if the Commission did introduce a rolling scheme for commercial revenues that all charges to airlines be excluded.

A1.58 DACC supported a rolling incentive scheme to incentivise capex efficiencies. It stated that the assessment of outperformance must be for genuine efficiencies rather than non-delivery and that it could only be applied after DAA's capex had been adjusted for investments that were imprudently undertaken, not carried out at all or undertaken on non-core assets. It referred to the system used by Ofwat, the UK water industry regulator, as an example.

Consultation on Access to Installation Fees

A1.59 In March 2008 the Commission granted approval to the DAA to increase the fees it levies on airlines and groundhandlers in respect of check-in desks at Dublin airport. The Commission's role in approval of such charges falls under groundhandling regulations and is a distinct function from its role in respect of price caps which are governed by the Aviation Regulation Act 2001. In granting approval to the DAA's proposed charges the Commission published a Notice initiating a consultation with stakeholders on how revenues earned from check-in desk charges and other charges levied for access to installations might be considered when setting the cap on airport charges.

A1.60 The Commission sought the views of stakeholders on the following suggestions:

- Option 1: Redefine 'Airport Charges', as defined in the Air Navigation and Transport (Amendment) Act 1998, to include to include certain essential facilities at such as check-in desks and other airport installations. This would ensure that such charges fell within the regulated cap. However legislative changes fall outside the powers of the Commission and would need to be undertaken by the Minister of Transport.

- Option 2: A commitment by the DAA on the level and timing of future increases in access to installation fees. This would enable the Commission to perfectly forecast increases in charges which could be factored into the commercial revenues forecast at the time of a regulatory determination.

- Option 3: An assumption of full cost recovery. The DAA has to date charged below cost for check-in desks. It is the Commission's understanding of the legislation pertaining to charges levied in respect of airport installations that the DAA is permitted to recover its costs, including a reasonable return. An assumption of full cost recovery would immediately pass through to users, in the form of a higher commercial revenue assumption and thus lower price cap, the maximum revenues that the DAA could charge for a check-in desk through to users under the current system of approvals by the Commission, regardless of whether it actually earned these revenues.

- Option 4: A revision to the price cap formula, which would adjust the airport charges price cap when an access fee is either introduced or increased thereby offsetting the increased charge with a corresponding decrease in airport charges.

DAA

A1.61 In its response the DAA stated that all of the proposals would add increased complexity and imbalance to the regulation of airport charges. It added that the introduction of such new measures could also add considerably to the regulatory burden the DAA experienced.

A1.62 It stated that the proposed options would signal a more interventionist approach to regulation resulting in increased micromanagement of Dublin airport by the Commission contrary to the statutory requirement to have due regard to imposing minimum restrictions on the DAA. It also expressed concern that the proposed changes to the framework regulating ATI charges would reduce the company's flexibility in relation to its check-in desk charging policy. It stated that price flexibility is essential in the efficient management of the Dublin airport as it allows the company to respond where unexpected developments occur that require action on the part of the airport company. It cited that changing pattern of usage of check-in desks by airlines and the movement towards alternative forms of check-in.

A1.63 The DAA did not support any of the options proposed and stated that since ATI charges are approved based on legislative criteria it does not see that rationale for further protection for users. It further stated that ATI fess and airports charges are already aligned as access to installation fees form part of the net groundhandling revenues which are included in the single till and which are deducted from DAA's capital and operating costs to determine regulated aeronautical revenues.

A1.64 Regarding Option 1 it stated that a redefinition of 'airport charges' would dilute the meaning of the term airport charges as it would then include levies relating to both aeronautical and indirectly related activities. It would also have a serious impact on the statutory basis of the regulatory framework given that it is currently focused exclusively on regulating airport charges. The DAA added that such a change would create a charging inconsistency as currently airport charges are defined in terms of passenger and aircraft movements while in contrast ATI charges are indirect charges relating to rental of facilities.

A1.65 The DAA objected to making a commitment on charges going forward as described in Option 2 on the basis that it would require that the company would be able to provide accurate forecasts for future ATI revenues which in turn would require assumptions in relation to variables such as likely usage of facilities by airlines and their elasticities of demand. The DAA stated that it would be inconsistent for the Commission to require it to commit to a definite price path, while not requiring check-in desk users to provide any form of commitment on usage at that confirmed price level. The DAA added that the proposal would also interfere in the efficient management of Dublin airport by restricting its ability to react to unexpected events.

A1.66 In rejecting Option 3 the DAA stated that an assumption of full cost recovery would have serious implications for the DAA as in order to achieve its regulated rate of return it would be obliged to levy ATI charges based on full cost recovery regardless of market forces.

A1.67 The DAA also opposed the introduction of an 'adjustment term' to the price cap formula as described in Option 4. It stated that any adjustment term should be symmetric and compensate the DAA for if revenues from ATI charges were to decrease. It expressed concern regarding the potential introduction into the price cap of an adjustment for potential changes in ATI charges without a similar adjustment for any unanticipated increased or newly incurred costs over the course of a regulatory period. Finally it stated that the Commission has not stated

how it proposes to adjust the price cap to take account of the change in ATI revenues and whether or not it intends for overall revenue to remain unchanged.

DACC

A1.68 In it response DACC stated that its interpretation of the 1998 Act was that check-in desk rental charges are airport charges. It favoured a reform to the current definition of airport charges to check-in desks within the services covered by the price cap and stated that check-in desk rental charges are and "essential and unavoidable part of the service [they] buy in order to offer passenger services".

A1.69 DACC stated that it did not "consider it acceptable that certain unavoidable charges are excluded from the scope of economic regulation on a legal technicality". DACC called for a review of all services offered by the DAA to "identify all such services that represent bottlenecks controlled by the DAA and to then include those charges in a revised legal definition of airport charges".

A1.70 DACC expressed a preference for Option 1. It stated that if Option 1 were considered unworkable it would support Option 2, a pre-commitment from the DAA on access to installation charges. While recognising that Option 2 would give protection to airlines against an increase in fees it considered it a less satisfactory solution to Option 1 as it regarded it as a sub-cap on an element of overall airport charges, contrary to the spirit of price-cap regulation at Dublin airport.

A1.71 It did not support the implementations of Option 3 or Option 4. It stated that Option 3 does not appear to deal with the market power problem and that the DAA would still have an incentive to charge a monopoly price either after the setting of airport charges or in costs it submits to the regulator in support of its ATI charges. It described Option 4 as an ad-hoc solution and stated that there was no logical reason why the cap should be adjusted for changes to some charges outside the cap but not for others.