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Effective regulation of airport market power

A report for Airlines for Europe and IATA

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1 Summary

Airport charges differ widely across Europe. The approaches by which charges are set also varies with many charges being set commercially by individual airports or airport groups, some prices being agreed as part of long-term concession agreements with public authorities and other prices being regulated albeit under inconsistent regulatory approaches. Charges at many European airports have also increased significantly above inflation over the last decade.

While the Airport Charges Directive (ACD) was intended to establish a common framework for regulating airport charges at the EU/EEA largest airports, the European Commission is concerned that the Directive is not fully achieving its objectives particularly in ensuring effective regulation of airports with Significant Market Power (SMP). The Commission notes that there is a need "*to ensure that action is taken as soon as possible to address the problems identified…the cost is to a large extent passed on to passenger or cargo customers.*"[1]

Airlines for Europe and IATA have requested CEG to examine whether a streamlined approach could be developed to identify and effectively regulate airports with SMP. In particular, we focus on the airports that have more than 5 million passengers per annum (mppa) which are covered by the Directive.[2]

The EU has successfully established frameworks to regulate market power in energy, telecoms, and other sectors. The monopoly parts of electricity and gas networks are subject to price regulation which is enabling the development of competition in the other parts of the industry. The European Regulatory Framework for electronic communications requires national regulators to periodically assess the competitiveness of certain communications markets and apply proportionate regulation to any operator found to have SMP. Prices for communications services in the EU have come down every year between 2006 and 2015.

There are sound reasons as to why a streamlined approach can be used to assess airport market power.

- First, the risk of excessive airport charges can generally be assessed with reference to a single product market being the supply of airport infrastructure services to airlines.[3] This is because an airline that uses a particular airport will require access to a group of airport infrastructure services which includes the use of runways and taxiways and other airport structures. Airlines can be expected to consider the overall charges for this group of services. It is also the case that within Europe,

[1] *European Commission Inception Impact Assessment, Charges for the use of airport Infrastructure*, 13 November 2017.

[2] While the Directive also covers airports with the highest passenger movements in each Member State, as we discuss in the report, it may be disproportionate to require market power assessments in relation to relatively small airports such as those below 5 mppa.

[3] The word 'services' is used here in a general sense to include the use of infrastructure.

airport infrastructure services at any specific airport are supplied by or under the control of a single airport owner. This results in the supply of infrastructure services at an airport being subject to similar competitive conditions, e.g. where the presence of a nearby independent airport constrains the charges for one of these services it is likely to also constrain the supply of the other aeronautical services.

- Second, the factors that could potentially constrain airport market power are relatively stable, particularly by comparison with dynamic markets such as telecoms. For example, new airports are rare and are known well in advance because of planning requirements.

- Third, there are only a few potential sources of competitive constraint on general airport charges. In fact, in this report, we set out why airport market power in the EEA can be assessed by testing with reference to two main sources of competitive constraint (effectively testing whether there are alternatives):

    i. whether there is a nearby, independently owned airport for which it is economic and practical for airlines to switch their operations to and where this would significantly reduce actual passenger numbers at the airport being tested; and

    ii. whether the airport has a high share of inbound leisure travellers that would be prepared to switch to alternative destinations sufficiently so as to significantly reduce passenger numbers at the airport being tested.

General charges at any European airport are unlikely to be effectively constrained by other airports seeking to host hub operations. Even European airports with significant hub operations still have the majority or nearly the majority of their passengers coming from the local catchment area. Transfer passengers also typically represent a minority of passengers, so O&D passengers will be more significant in driving airport choice by airlines. Further, airlines face substantial costs in trying to switch hub locations including moving physical assets and staff as well as being bound by supplier contracts and regulatory restrictions relating to air traffic and landing rights.

Other transport modes are also unlikely to constrain general airport charges. Only a small share of an airport's existing routes are likely to be ones where significant passengers would be expected to consider other transport modes as close substitutes (i.e. where passengers balance the speed, convenience and cost of flying against that of other modes and would be prepared to switch in response to a small but significant increase in airport charges ultimately resulting in higher airfares).

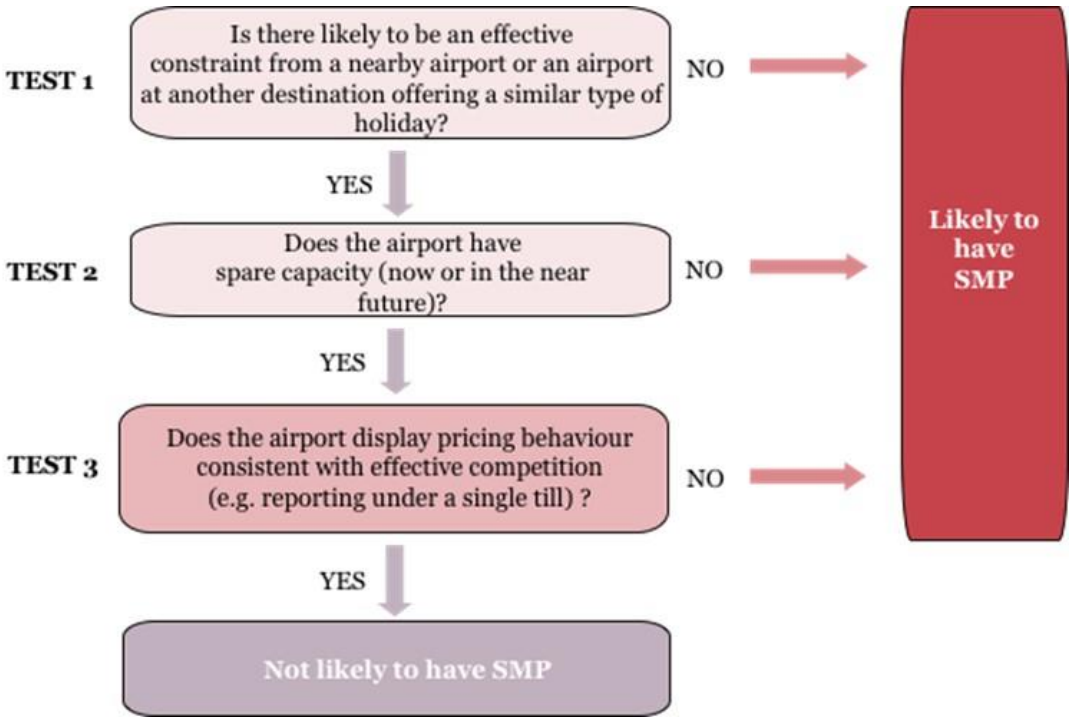
In this report, we investigate when the constraints of a nearby airport or having a large share of inbound leisure travellers are likely to be effective in constraining airport charges to levels sufficient for an airport to recover its overall costs including its cost of capital. Among other factors, we note that airports with demand greater than their capacity are likely to set charges above competitive levels even in the presence of nearby airports or even

if their passengers are mainly inbound leisure travellers. Demand greater than capacity means that even if one airline were to withdraw services, other airlines would replace them.

As well as considering potential sources of competitive constraints, evidence of pricing and profitability can also sometimes directly indicate whether a business has SMP. In the case of airports, care is needed in the assessment of such evidence as, for example, rate of return regulation can lead to over-investment and a low percentage rate of return albeit a high monetary return because the percentage rate of return is being applied to an inflated cost base. One behaviour that would be inconsistent with effective competition is where an airport sets its charges so that aeronautical revenues fully recover aeronautical costs. Instead, effective competition should lead to airports pricing their aeronautical services so that profits from all services, including non-aeronautical services, are used to recover the costs of the airport infrastructure.

On the basis of our analysis of the nature of potential competitive constraints on airports, we consider that the following screening tests provide a reasonably accurate indication of whether or not an individual airport is likely to have SMP. An airport that fails any of these tests would be considered as likely to have SMP. The precise way in which these tests can be applied is set out in Section 5. These tests provide a practical way for regulators to identify which airports have SMP on the basis of data that can often be readily obtained and would function well for the vast majority of European airports.

Figure 1: Summary of SMP screening criteria for airports



Simplified screening criteria offer the potential for effective and timely regulation of airport market power including by regulators that have limited resources to undertake full market

power assessments. Nonetheless, there may sometimes be a need to consider additional factors relevant to the special circumstances of individual airports or some of the data may be ambiguous. Accordingly, we propose that national regulators retain the option to conduct full market power assessments where they believe that the screening criteria are omitting an important local factor, where the application of the tests does not produce a clear answer or where stakeholders have made a justified request for an assessment. The use of screening tests will help limit the number of full market power assessments to be carried out by regulators and thus should enable such assessments to be conducted more quickly so that passengers are not left bearing the cost of excessive airport charges indefinitely.

Where an airport has SMP, ex ante regulation of that airport's charges would be needed to prevent market power being exploited. Ex ante regulation enables a specialist regulator to determine the level of charges for the forthcoming period sufficient for the airport to recover its overall efficient costs including its cost of capital and taking into account the profit contribution from non-aeronautical services. Ex post competition law (or other remedies that do not cap airport charges) would instead create uncertainty for airport owners and users as to what charge levels are reasonable and potentially require courts to make difficult judgments in relation to factors such as allowable costs, the depreciation approach and the cost of capital. The onus would be on airlines to bring these lengthy and costly cases.

Competition between airlines has substantially improved the affordability of and access to air travel enabling individuals to more readily travel to visit family, friends and new places and supporting businesses in connecting with suppliers and customers. However, gains in affordability will be limited in future or even reversed unless action is taken to address excessive airport charges. The proposals set out in this report are intended to assist the European Commission in developing a streamlined European approach to the identification and regulation of airport market power while avoiding regulation of airports which are competitively constrained. Europe's consumers and businesses stand to benefit from effective regulation of airport charges.

2 Introduction

This report sets out the case for a streamlined approach for assessing airport market power. SMP can be treated as equivalent to the competition law concept of dominance. For example, this is the approach adopted in the European framework for electronic communications.[4] The Commission has summarised the concept of dominance as:

> *"Dominance has been defined under Community law as a position of economic strength enjoyed by an undertaking…affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers. This notion of independence is related to the degree of competitive constraint exerted on the undertaking in question. Dominance entails that these competitive constraints are not sufficiently effective and hence that the undertaking in question enjoys substantial market power over a period of time… The Commission considers that an undertaking which is capable of profitably increasing prices above the competitive level for a significant period of time does not face sufficiently effective competitive constraints and can thus generally be regarded as dominant. In this Communication, the expression 'increase prices' includes the power to maintain prices above the competitive level and is used as shorthand for the various ways in which the parameters of competition — such as prices, output, innovation, the variety or quality of goods or services — can be influenced to the advantage of the dominant undertaking and to the detriment of consumers."*[5]

In this report, we first identify the problems of ineffective and inconsistent regulation of airport market power to date. This includes the rise in charges over time, the fact that major airports that should enjoy the greatest scale economies set the highest charges and that not all Independent Supervisory Authorities (ISAs) have the necessary independence and the right resources and incentives to remedy excessive charges. We also provide a high-level review of the experience of other sectors where European regulatory frameworks have led to substantial consumer benefits. We then set out why SMP can be assessed under a streamlined approach for airports without regulators needing to undertake a full market power assessment each time.

In the remainder of the report, we examine the potential sources of competitive constraints on airports and show how these can be translated into a streamlined approach to assess SMP. We set out a set of screening tests that provide a practical way for regulators to identify whether an individual airport is likely to have SMP. We then discuss what regulation is likely to be proportionate to address airport market power. Finally, we summarise our proposed new regulatory framework to address airport market power.

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4 *Directive 2002/21/EC on a common regulatory framework for electronic communications*, para. 25.

5 "*Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings*", para. 10-11.

3 The case for a streamlined approach for assessing airport market power

3.1 Issues with current airport regulation

The European Commission has identified a need for action to remedy airport market power more effectively and more consistently across the EU. The Ex Post Evaluation study for the Commission found:

i. Many airports increased charges by over 40% between 2009 and 2016 with several in Italy and Madrid airport increasing charges by over 100 per cent. Increases have been highest at medium sized and very large airports and at those airports with a change in ownership of an existing concession or that had been privatised as a network. Average airport charges increased by 23% between 2009 to 2016, significantly above inflation. [6]

ii. These higher charges have come despite the general growth in traffic which allows for greater scale economies, as is recognised where airports are regulated with reference to cost. For example, the UK CAA determined the efficient cost of airport charges and found that charges should be decreasing in real terms (i.e. the CAA determined in 2014 that Heathrow's charges should be reduced in real terms annually by Retail Price Inflation minus 1.5% per year and Gatwick's charges by RPI minus 1.6% per year).[7] The cap on Dublin's Airport charges was reduced from €10.30 per passenger in 2016 to €9.59 in 2018.[8] Schiphol's charges, which are regulated at cost, were reduced by 6.8% in 2015 and by 11.6% in 2016 as a result of higher passenger numbers.[9]

iii. ISAs are not adequately resourced or incentivised to address market power. The report stated:

> *"The analysis performed shows that the level of skills of ISAs remains inconsistent, their independence subject to different interpretation and their level of resources sometimes limited in comparison to their expected duties. Worryingly, not all ISAs have been adequately empowered or have been set-*

6 Steer Davies Gleave, *Support study to the Ex-post evaluation of Directive 2009/12/EC on Airport Charges*, 2017, Figure 4.5, p. 141, paragraph 4.154, p. 179, paragraph 4.156 and figure 4.14, p. 181-82, paragraph 4.33, p. 141, Figure 4.11, p. 179.

7 CAA, Economic regulation at Heathrow from April 2014: Notice granting the licence, p301 and Economic regulation at Gatwick from April 2014: Notice granting the licence, p.3.

8 Commission for Aviation Regulation, Commission Notice 3/2017, 15 November 2017.

9 Schiphol Airline Operators Committee news release, "Schiphol airport decreases airport fees".

> *up effectively. This has resulted in a sub-optimal application of the Directive, including in some of the largest EU aviation markets."*[10]

There are also large differences in the level of airport charges across Europe which appear to be not clearly related to cost differences. In particular, the major airports which should enjoy the greatest scale economies (and hence should have lower costs per turnaround) tend to set the highest charges. The 2013 ex-post evaluation of directive 2009/12/EC on airport charges found that "*airport charges do tend to be higher for airports of greater than 20 million passengers than below 20 million*" in the scenarios tested.[11] A more recent review of airport charges in 2017 by Steer Davies Gleave found that airports carrying more than 30 mppa increased annual charges by 3.5% and 6.1% (depending on the type of aircraft) between 2009 and 2016. These price increases were higher than those for smaller airports over the same period. The Ex-post Evaluation study also found "*a high amount of variability in the way charges are calculated across different airports*."[12]

3.2 How is market power addressed in other industries?

European regulatory frameworks to address market power in other industries are more developed and assessing their performance can help identify approaches to improve regulation of airports.

The European regulatory framework for electronic communications

In March 2002, the European Parliament and the Council adopted a set of directives which form the common regulatory framework for the electronic communications networks and services. A major objective of the new framework was to achieve more effective and consistent regulation of market power arising from control of communications network infrastructure. Following are key elements of the new framework to address market power.

The European Commission identifies a set of product markets for electronic communications services which are considered susceptible to ex ante regulation, i.e. where there is the potential for competition to not be effective. 18 different product markets were initially identified as being susceptible to ex ante regulation covering a wide variety of voice, data and transmission services and technologies.

Independent national regulators are then required to assess whether there is effective competition in those markets in relevant geographic areas within their territory or, if not, which undertakings have SMP with SMP being defined as equivalent to the competition law concept of dominance.

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10 Steer Davies Gleave, *Support study to the Ex-post evaluation of Directive 2009/12/EC on Airport Charges*, 2017, p. 287.

11 Steer Davies Gleave, *Evaluation of Directive 2009/12/EC on airport charges*, 2013, p. 43.

12 Steer Davies Gleave, *Support study to the Ex-post evaluation of Directive 2009/12/EC on Airport Charges*, 2017, p.188.

National regulators are required to determine appropriate and proportionate regulation on undertakings found to have SMP from a set of potential regulatory obligations including transparency, non-discrimination, accounting and functional separation, the provision of access to specific facilities and price controls. Where an operator is found to have SMP this generally leads to the imposition of some form of access price regulation, potentially together with some of the other remedies.

The European Commission maintains an oversight role including reviewing draft competition assessments and proposed remedies and may require the national regulators to review draft measures taking utmost account of any concerns raised by the Commission or by other national regulators. Any proposal to regulate a market other than one identified by the Commission must also be approved by the Commission.

The Commission has undertaken several reviews of the performance of the electronic communications framework including identifying measures to strengthen the framework over time. The 2016 review found:

> *"It is widely recognised that the regulatory framework has been effective in delivering a competitive sector overall. This has generated significant end-user benefits, such as widely available (basic) broadband, a significant decrease in prices and more choice. Access and spectrum regulation in particular, but also market entry provisions, have increased…Prices for communications services decreased every year between 2006 and 2015 at an average rate of 1.44% per year."*[13]

Effective regulation of bottleneck communications infrastructure has supported significant new entry in retail voice and broadband markets which relies on access to that infrastructure to supply services to end customers.

While the framework has brought substantial consumer benefits and has been successful overall, a number of issues were encountered in the implementation of the framework. There were significant delays in member states transposing the telecoms package into national law with only 8 out of the 15 then EU Member States having incorporated the framework in national laws by November 2003. There were also significant delays by some national regulators completing the necessary market reviews. For example, at the end of 2006 (over 3 years after the intended commencement of the new framework), only 12 of 25 Members States had conducted a review of the majority of the markets identified by the Commission as requiring competition assessments. Five Member States had yet to complete any market review by this time.[14] These delays are likely to reflect a combination

13 Commission staff working paper, *Evaluation of the regulatory framework for electronic communications*, 2016, p. 4, 5, 30.

14 For further discussion on the delays in the market reviews, see *The European Electronic Communications Regulation and Markets 11th Report – Frequently Asked Questions, MEMO/06/85*, February 2006, p. 8.

of inadequately resourced or incentivised regulators and the relatively large number of product markets needing to be reviewed by each regulator.

Issues were also encountered with inconsistent regulation across the EU. For example, the Commission found "*Regulatory consistency has been achieved only to a limited extent, affecting the operations of cross-border providers and reducing predictability for all operators and their investors…the best regulatory solutions have not always been chosen, with impacts on end-user outcomes.*"[15] In some cases, such as the Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, the Commission has taken further action to specify the precise form of price regulation to be applied to particular services to achieve more effective and consistent regulation across the Single Market.

Regulation of energy

Gas and electricity utilities in Europe were traditionally vertically integrated monopolies. Largely since the 1990s, the European Commission and particular Member States have taken measures to introduce competition and improve outcomes for consumers. In particular, European measures have been introduced to:

- distinguish competitive parts of the industry (e.g. generation and supply to customers) from non-competitive parts (e.g. network operation);
- oblige the operators of the non-competitive parts of the industry (e.g. the networks and other infrastructure) to allow third parties to access the infrastructure at regulated prices;
- remove barriers preventing alternative suppliers from importing or producing energy;
- reduce barriers to customers changing their supplier; and
- introduce independent national regulators.[16]

There have been three major EU initiatives relating to energy regulation.

- The First Directive (96/92/EC) aimed to create competition in generation and in supply to the largest customers including measures to remove legal monopolies, to unbundle supply from network operation and oblige network owners to grant access to third parties;
- Second Directives were adopted in 2003 for electricity (2003/54/EC) and gas (2003/55/EC) which pushed further with requiring the legal and functional unbundling of transmission and distribution from generation and retail supply,

15 Commission staff working paper (2016), Evaluation of the regulatory framework for electronic communications, p. 30

16 http://ec.europa.eu/competition/sectors/energy/overview_en.html

established regulators independent from the industry and replaced negotiated third party access arrangements with regulated, non-discriminatory tariffs.

- The Third Energy package was adopted in 2009 and intended to be in force from 2011 although no Member State achieved transposition by the deadline and even when transposed the Commission found that many Member States' laws did not conform with what was required. The package required Member States to force the unbundling of energy supply and network distribution, strengthened the independence and powers of regulators, rules to better protect retail consumers and also established the Agency for the Cooperation of Energy Regulators (ACER) to ensure effective cooperation between national regulators and to take decision on cross-border issues.[17]

In contrast with the regulatory framework for electronic communications, European regulation of energy markets recognises that there are parts of the energy sector, particularly transmission and distribution networks, that are monopolies across the EU. Thus, the three major initiatives aim at separating these monopoly parts from potentially competitive energy generation and retail supply. Transmission and distribution network operators are then required to provide access at regulated prices.

Regulatory measures in relation to energy generation and supply have focused on structural changes, particularly unbundling from transmission and distribution, to support the development of competition. Ex ante regulation is less likely to be needed in markets where competition is achievable. That said, competition has been slow to develop in generation and there have been a number of competition law cases to address the abuse of market power in terms of withholding supply to increase prices and market manipulation using transactions that are unprofitable in the short-term to create benefits in a separate market.[18] However, the Commission was concerned that there would be difficulties preventing such behaviour under competition law and introduced a specific set of rules on energy market manipulation, the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT), in 2011 to prohibit certain conduct.

Regulation of postal services

The European Commission introduced the Postal Services Directive (97/67/EC) to open postal services to competition. As with regulation in other sectors, the Postal Services Directive includes measures to improve consistency across the EU and establish and adequately resource independent national regulators.

A specific concern in the postal sector was that competition would focus on a few profitable services and prevent those services from being used to cross-subsidise the provision of

17 http://europa.eu/rapid/press-release_MEMO-11-125_en.htm?locale=en

18 For example, the Commission investigated E.ON for a suspected strategy of withholding capacity and obtained a commitment for E.ON to divest certain generation capacity (see European Commission Competition Policy Newsletter, "The E.ON electricity cases: an antitrust decision with structural remedies").

reliable and affordable national postal collection and delivery. As such, much of the Postal Services Directive sets out rules in relation to maintaining and funding a universal postal service, i.e. the rules are aimed at ensuring loss-making services will continue to be provided.

Retail prices caps are used in many Member States to ensure that the defined universal postal service remains affordable. Regulation based on significant market power assessments is less consistent across the EU, although some national regulators do carry out market power assessments particularly to identify wholesale access services (such as access to sorting and delivery services) to be provided to competitors.[19]

Insights from other sectors for airport regulation

Regulatory initiatives at the European level have brought substantial benefits to European consumers and businesses. Benefits have been achieved particularly through measures to support competition that relies on access to key infrastructure and through preventing the exploitation of SMP. European action has in some cases had to overcome local delays or resistance to effective regulation. The creation of independent and adequately resourced regulators has been instrumental to achieving effective regulation.

It is recognised across industries that ex ante regulation is warranted where competition is unlikely to develop. The precise way in which regulation is imposed is likely to need tailoring to the specific characteristics of each sector. For example, the regulatory framework for electronic communications initially required market power assessments to be conducted for 18 different product markets contributing to long delays in implementation and significant costs and the list of markets was reduced over time. Regulation of energy markets was instead based on the view that transmission and distribution would continue to be supplied by monopolies in all Member States while other parts of the energy sector were prospectively competitive. As we discuss next, assessing airport SMP is likely to fall between these two frameworks, i.e. while airport SMP cannot simply be taken as given as is the case for energy transmission and distribution, it can be assessed using a more streamlined approach than the full market power assessments applied in electronic communications.

3.3 A streamlined approach is practical for airports

Competition case law provides an established framework to assess whether undertakings are dominant in any part of the economy to assist in determining whether any particular conduct may be anti-competitive. Key elements of this approach include:

- identifying the relevant market, i.e. over which products and which geographic area is there the potential for the undertaking to face a competitive constraint,

[19] For example, in 2014, the Dutch Postal Act gave the Dutch regulator, ACM, the power to impose ex ante obligations on mail transport companies having SMP in a relevant market for mail transport services.

particularly because those products supplied with that area are regarded by customers as close substitutes to the undertaking's products; and

- considering whether there are in fact competitive constraints that are sufficiently strong to effectively constrain the undertaking's behaviour including by reference to the market shares, barriers to entry and expansion, buyer power and evidence on actual behaviour, pricing and profitability.

As to be expected, the significance of particular constraints varies between industries and even between different segments of the same industry. The complexity of the analysis also varies as, for example, market definition may be clear where there is a single drug that can treat a specific illness whereas market definition will be more difficult where there is a spectrum of differentiated products and limited data on the extent to which customers switch between those products in response to changes in their relative prices. In merger cases relating to a specific product type, the European Commission generally follows its precedence in adopting the same product market and the same methodology for defining the geographic market as in earlier cases. For example, in mergers relating to the management and operation of airports, the Commission has generally considered that there is one market for the provision of airport infrastructure services (which includes the development, maintenance, use and provision of runway facilities, taxiways and other airport structures), and distinct markets for ground-handling services and the provision of associated commercial services.[20] The Commission noted that further subdivisions such as between services to full service airlines versus low cost carriers could be examined but were not considered significant for the merger analysis. However, the business models of the airlines have been converging for some time and even in 2014 the CAA concluded that "*that it is unlikely that the identification of separate markets, segmented by airline business model is appropriate.*"[21]

In considering the assessment of market power as a threshold for ex ante regulation as opposed to a merger review or investigation of past anti-competitive behaviour, two distinctions are worth bearing in mind. First, the question of whether an airport's general charges should be regulated calls for a broad analysis of the potential constraints on that airport's charges. A merger review or investigation of anti-competitive behaviour will instead be focused on specific issues such as to what extent the two merger parties are already in competition or the specific behaviour being examined. Second, when market power is being assessed to determine whether ex ante regulation is likely to be warranted for the forthcoming regulatory period (e.g. the five years or so before the next review), what matters is whether the market is competitive or will be competitive within that period.

Market power assessments for the same industry can generally draw on earlier findings as to the relevant competitive factors. In addition, market power assessments for ex ante

20 See, for example, *Case No COMP/M.7398 – Mirael/Ferrovial/NDH1*, 2004, p.4-5.

21 CAA, *Market power determination for passenger airlines in relation to Stansted Airport,* 2014, Appendix D, para. D163.

regulation support a more general approach than under competition law. As a result, we believe that the assessment of airport market power for regulation does support a streamlined approach. We discuss this next.

Market power assessments can be limited to only the major airports, i.e. with more than 5 mppa

We propose that assessments of whether an airport has SMP and should be regulated be required to be undertaken only for airports serving more than 5 mppa. This is one of two criteria used in the Airport Charges Directive (the other being whether the airport has the highest passenger movements in each Member State which would capture a few additional smaller airports in some of the smaller Member States). Such a threshold needs to be determined weighing the benefit of ensuring airports cannot abuse market power against the administrative costs for regulators in undertaking market power assessments. The 5 mppa threshold will significantly reduce the number of airports for which market power assessments are carried out. An even higher threshold would risk more residents in areas with only one local airport being vulnerable to excessively set airport charges. We propose that market participants could request market power assessments be carried out for the other airports covered by the Directive (i.e. airports with less than 5 mppa where they are the main airport in the Member State) where there is evidence indicating that SMP is being exploited.

A single product market for airport infrastructure services

First, the main potential market power problem requiring regulation of airports can be assessed by reference to a single product market being the group of airport infrastructure services supplied to airlines. In particular, this is the group of services required by an airline in using each airport. It is also the case that in Europe, at each airport these services are supplied by or controlled by the airport's owner. This results in the group of services being subject to similar competitive constraints. For example, if an airport is not competitively constrained in the charges it sets for the use of the runway and taxiways it is also likely to not be competitively constrained in setting charges for aircraft parking.

The assessment of airport market power with reference to one distinct product market is also consistent with the analysis of the UK CAA:

> *"The particular service provided at Heathrow consists of a single product that consists of the following airport operation services: the use of the runway and taxiways; aerodrome ATC* [Air Traffic Control]*; aircraft parking; the provision of access and infrastructure needed for the provision of other airside and landside groundhandling services; the provision of facilities for check-in; baggage handling; security screening; holding passenger facilities; airline staff processing facilities; passenger transit facilities; cargo processing facilities; premium passenger facilities; and integrated transfer facilities… it is appropriate to determine a service bundle rather than individual products or services as:*

- *These services are likely to form the key bundle of services that an airline would require to operate from an airport.*
- *An airline would be required to bear the costs of all of these services to provide air transport services.*
- *In deciding whether to land at an airport, an airline would take account of the total bundle of charges rather than focusing on any one charge in isolation (even though services may be priced individually by the airport operator to reflect different cost drivers).”*[22]

In line with the focus of the current ACD, we focus on airports with significant passenger traffic and do not separately consider cargo services. Cargo services at passenger airports will be protected by the effective regulation of those airports’ charges.

The product market also excludes commercial services supplied to passengers such as shop purchases and car parking. This is because pricing of commercial services does not appear to be a significant factor in airline’ decisions as to whether to use a particular airport. For example, the UK Competition Commission found: “*we have not seen evidence of airline concern with the level of prices for commercial services at competitive airports; instead airlines seem mainly, if not exclusively, concerned with getting the best deal on aeronautical services. We therefore consider that airport commercial services are in separate market(s) from aeronautical services, and that there is not a single bundled airport product market.*”[23] Ultimately, it is airlines’ decisions to use a particular airport that drive passenger numbers at that airport.

We also propose that ground-handling services be excluded as they are often offered by independent contractors or self-provided by airlines. Access to the airport infrastructure to enable the provision of ground-handling services would be included in the market with other airport infrastructure services.

The ability to focus market power assessments on a single product market enables a more simplified approach than the full assessments undertaken for the communications sector. The communications sector covers a wide variety of dynamic technologies (e.g. fixed, cable, mobile) and services (e.g. voice, data, TV) which are supplied in markets that differ significantly in terms of market structure across Member States. For example, while mobile markets generally have several operators, the extent to which fixed incumbent operators face competition varies depending on whether there is a widespread cable network and depending on how well new entrants have established themselves using access to the incumbent’s network. The dynamic nature of the communications industry with ongoing

22 CAA, *Market power determination in relation to Heathrow Airport – statement of reasons*, 2014, para. 4.29

23 UK Competition Commission, *BAA airports market investigation*, 2009, para. 2.30.

significant technological change also requires regular assessments of product market definitions and market power.

There are only few potential competitive constraints on airports

Conceptually, airport charges could be constrained by (i) the presence of a nearby airport; (ii) more distant airports if passengers or airlines would be prepared to switch to those airports in response to excessive airport charges; and/or (iii) other comparable transport modes. In Section 4, we investigate to what extent these potential factors are likely to be effective in constraining airport charges to competitive levels and under what circumstances. As part of this, we consider to what extent airlines may have bargaining power to constrain airport charges. While assessing the potential for new entry can be a challenging issue for other industries such as telecommunications, the assessment of entry is more straight-forward for airports as planning requirements mean that any new airport will be known about years in advance and, in any event, the economics have led to few new airports in Europe in recent years.

Our analysis in Section 4 finds that there are only two situations where constraints will generally be effective:

- where there is a nearby, independently owned airport for which it is economic and practical for airlines to switch their operations to and where this would significantly reduce actual passenger numbers at the airport being tested; and

- where an airport has a very high share of inbound leisure travellers that would be prepared to switch to alternative destinations sufficiently so as to significantly reduce passenger numbers at the airport being tested.

Having established that the assessment of airport SMP for regulation can be undertaken with reference to a single product market and by examining the effectiveness of two main potential sources of competitive constraint, we then show in Section 5 how a set of practical screening tests can be applied to determine the effectiveness of these two constraints for any individual airport. These screening tests would enable a streamlined approach to assessing airport market power which would limit the resource demands on regulators and expedite the process so as to prevent delays in regulation being applied to prevent the exploitation of SMP at the ultimate expense of passengers. While the screening tests can be relied upon to determine airport market power in the vast majority of cases, we propose that national regulators would retain the option to undertake a full market power assessment if they believed that such an assessment was warranted by the specific circumstances of a particular airport.

4 Potential sources of competitive constraint on airport charges

In this Section, we examine which potential sources of competitive constraints could be sufficiently strong to effectively constrain the charges of European airports to competitive levels. We first consider the potential for competition from a nearby airport as may occur where an urban area has multiple airports conveniently located to it. Next, we consider two circumstances in which airports that are more distantly located have the potential to exert a competitive constraint on each other. In particular, we investigate the likely extent of any competitive constraint between airports at destinations that offer similar types of holidays (e.g. beach holidays) and between airports that seek to attract transfer passengers through hosting airline hub operations. Finally, we consider whether other transport modes such as high-speed trains could be expected to effectively constrain general airport charges.

4.1 Whether nearby airports could effectively constrain airport charges?

A commercially operated airport that faces no competitive constraint can be expected to set its charges at the monopoly level so as to maximise overall profits.[24] Excessive charges harm passengers who will ultimately need to bear them and constrain their demand for air travel. The incentive for airports to set excessive airport charges is increased by the fact that airport charges account for around 10-20% of airlines' variable costs[25] that affect airline capacity and ultimately airfares and that airfares themselves are only one element relevant to a passenger's decision to make a journey.[26] Because airport charges account for a part of overall airfares this can be expected to reduce passengers' responsiveness to the charges so that there is less downside for an airport from setting charges excessively. For example, charges set 5% to 10% above the competitive level and if ultimately fully reflected in airfares may raise airfares by around 0.75% to 1.5%[27] which can be expected to lead to almost all passengers continuing to use the airport and bearing the charges. Empirical studies of the elasticity of demand suggest that such an increase in airfares may lead to a reduction in

24 While some publicly owned airports may not have a single profit-maximising objective, a lack of competitive constraint on such airports may lead to other harm to passengers such as poor service levels or inefficiently high costs.

25 The UK CAA found that airport charges constitute around 10 to 20 per cent of an airline's variable cost base (CAA, Market power determination for passenger airlines in relation to Stansted Airport, January 2014, paragraph F4).

26 The UK Department of Transport has noted *"…duration of stay, costs of getting to the airport, convenience and many other factors influence choice"* (UK Department of Transport, *UK Aviation Forecasts,* 2013, para. 2.17).

27 While we test using the standard competition law threshold for SMP of charges 5% to 10% above the competitive level, it should be noted that some airports with SMP may set their charges much higher than 10% above the competitive level with greater consequential harm to passengers.

demand by leisure travellers of between 1% to 2.6% and less for other passenger types.[28] Thus the airport could stand to gain higher revenues on the 97.4% or so of passengers they retain while losing profits on only the 2.6% of passengers that cease using it.

One way in which an airport may be deterred from setting charges excessively is where it faces competition from a nearby airport. As noted above, almost all passengers can be expected to continue to want to make a journey to or from a local area even in the face of excessively set airport charges. Thus for a rival airport to competitively constrain an airport's charges would require those passengers to be prepared to follow an airline in switching (at the right price point, i.e. airfare[29]) to use the rival airport in sufficient numbers to make the excessive charges unprofitable. An airline could not credibly threaten to switch to the rival airport on its own unless it could continue to serve the demand for passengers in the local market for its routes from the rival airport. In this regard, airlines will not generally be expected to have sufficient bargaining power as to effectively constrain prices. Buyer power requires the buyer to have a credible alternative that it could switch to without incurring costs (including forgone revenue) that exceed the cost of remaining and bearing the higher charges.

When would an airline switching to a rival airport be able to continue to serve the demand of a local market?

As noted above, an airline is likely to only switch to a nearby airport in response to excessive airport charges if it can continue to serve the local market. This requires that passengers are prepared to also switch to the nearby airport and there is some evidence that passengers do not readily switch airports. For example, consumer research for the UK CAA found:

> *"The passenger preference evidence suggests that passengers value the location of the airport and route availability, as both of these issues factor highly in the reasons for airport choice. Likewise, passengers appear to have a strong preference for the airport from which they are flying. For example, the vast majority of those flying from Heathrow appear to have it as their airport of preference. While passengers may, in theory, choose to fly from a number of the London airports, they show clear preferences for particular airports, especially for Heathrow."*[30]

Where most passengers are choosing an airport because it is closest to their home or ultimate point of origin or destination or because of other non-price factors, then there may be little switching between airports in response to relative levels of airport charges. For

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28 A 2002 survey of empirical studies of the elasticity of demand for short-haul leisure air travel found a range of -1.743 to -1.288 at the level of individual routes with demand for long-haul travel and for business travel being less elastic (Gillen, Morrison and Stewart *Air Travel Demand Elasticities: Concepts, Issues and Measurement*, 2002, reported in Intervistas, *Estimating air travel demand elasticities*, 2007, p.8). Recent studies have tended to find less elastic demand for leisure travel (see, for example, UK Department of Transport, *UK Aviation Forecasts*, 2013, para. 2.17).

29 If passengers would only switch to a rival airport at a significantly lower ticket price then the airline may find it uneconomic to switch and instead be forced to bear the higher airport charges.

30 CAA, Heathrow Market Power Determination, 2014, para. D234.

example, passengers living much closer to one airport than other airports would be expected to continue to use their local airport even if the fares they pay ultimately become higher because of airport charges set at a small but significant level (say 5% to 10%) above competitive levels.

The prospect of switching will be greatest for more centrally located passengers and if the cost and time to travel to a rival airport is not substantially higher. On this basis, it is possible to develop a test to provide an indication of when an airport's charges might be effectively constrained by a nearby airport. For example, assume that the average price of one-way airfares is €220. IATA found that this is the average of actual EU airfares in 2016.[31] For illustrative purposes, assume that the competitive level of an airport's average charges is €30 per one-way ticket. This is somewhat below the weighted average of actual airport charges found for a sample of major European airports[32], although this average will be a mix of regulated and unregulated charges with the latter sometimes being above the competitive level.

If the competitive level of an airport charge is €30 then an airport that set its charges 10% above the competitive level would add €3 to the cost of an airfare (i.e. a 1.4% increase on average airfares). Other things equal, if a rival airport cost more than €3 to travel to then passengers would be expected to continue to use their existing airport and bear the higher costs.

As well as the cost of travel, passengers can also be expected to consider the time taken to reach a rival airport. A review for the European Investment Bank of existing EU studies of how much people value savings in travel time found that on average people travelling for leisure (i.e. not commuting and not for business) value saving 1 hour of travel time by €12.67.[33] Using the €12.67 figure would translate to passengers being willing to accept additional costs of €3 rather than travel 14.2 minutes longer. This helps explain the passenger research finding of the CAA noted above that most passengers display strong preferences for their particular local airport. While business customers have been found to value travel time savings more highly, it is reasonable to focus on leisure travellers who will be more price-sensitive customers and thus more likely to switch airports in response to higher charges. We discuss how such a test could be practically applied in Section 5.1 including being somewhat conservative in testing whether a rival airport costs less than €4 extra to travel to and take less than 20 minutes extra to travel to.

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31 IATA, *Airport competition: myth or reality*, November 2017, p.9. As this figure only considers passenger-based charges, and therefore excludes aircraft-based charges, it can be considered a cautious estimate.

32 Aviationeconomics, *Analysis of airport charges – Airlines for Europe,* January 2016, p.2.

33 Wardman, M., P. Chintakayala, G. de Jong and D. Ferrer, "European wide meta-analysis of values of travel time", May 2012, Table 15 (average of "Other category"). The €12.67 is expressed in 2010 prices and would need to be inflated to reflect changes in the value of money over time which the authors indicate should be inflated by the percentage growth in GDP per capita (i.e. to be around €14.21 using 2017 GDP per capita).

Our focus on the relative travel cost and time to a rival airport differs to the test used by the European Commission in some airline merger cases. For example, in the Ryanair/Aer Lingus III merger decision, the European Commission held that "*...airports are likely to have a catchment area serving the same city if they are within 100km or 1 hour from the city centre (the '100km/1 hour benchmark')...and that within such travelling distances or times to the airport, most passengers would not consider that flying from one airport or the other to the same destination is manifestly inconvenient.*"[34] The use of 1 hour from the city centre is intended to capture the likelihood of there being a significant share of potential passengers located in the overlap of the airports' catchment areas. While the Commission (in considering the impact of airlines mergers on airfares) considered that its benchmark is a conservative approximation, a revised approach is needed to identify whether an airport's charges are likely to be effectively constrained. In particular, given that airport charges account for only one part of total airfares, passengers will be less likely to switch airports because of, say, a 5% difference in airport charges than they would because of a 5% difference in the total airfares. The UK CAA has also noted assessing airport market power, that catchment area analysis may overstate actual constraints from switching because of price differences:

> *"...catchment area analysis does not provide price sensitivities of the passenger base as it only considers the location of passengers and the travel times that they may face. As such, it may overestimate the competitive constraint arising from passengers' ability to switch."*[35]

Passengers are also likely be sensitive to significant differences in travel times and costs to alternative airports, even where two airports are within 1 hour or 100 kilometres of a city centre. It is also more relevant for passenger decisions to focus on travel time and cost rather than distance as faster transport connections may enable a more distant airport to be reached in a comparable time. Our approach recognises that two airports will not be close substitutes if the travel time or cost to travel to one is substantially greater than to travel to the other. Such differences may be expected to be greater if passengers are travelling from their homes located outside the city centre, given that transport networks often radiate from the city centre.

While our discussion focuses on an existing rival airport, it is also relevant to consider whether any new airport is planned to commence operations in the forthcoming regulatory period, although such new airports are relatively rare in Europe.

What other conditions would need to be met for a nearby airport to offer an effective constraint?

The presence of a nearby airport on its own would not be sufficient for an airport's charges to be effectively constrained.

34 Case No COMP/M.6663 – Ryanair/ Aer Lingus III, para. 76-77.
35 CAA, Heathrow Market Power Determination, D227.

A nearby airport would not act as an effective constraint on an airport's charges if the airports are under common ownership. This is because the cost to an airport in setting higher charges is reduced if airlines switch to the owner's other airport and thus increase volumes and profits there. Airports under the same management can be expected to coordinate their charges rather than compete against each other. In Europe, many airports serving the same city or even the same country have common ownership including Aeroporti di Milano, Aéroports de Paris, Aeroporti di Roma, Flughafen Berlin Brandenburg and in Finland, Greece, Norway, Portugal, Sweden and Spain.[36] Indeed, many of these airports operate a common charging system.

Airlines operating at one airport will also be vulnerable to excessively set charges unless a sufficient number of flights could and would be switched to the rival airport in response to high charges. The ability and incentive of airlines to switch is critical because if they and their passengers remain, the airport is likely to find it profitable to set charges above competitive levels. Further, if an airline continues to serve demand on a particular route from that airport, another airline is unlikely to find a 5% or 10% difference in airport charges would make it profitable to try to take that demand by opening that route from a rival airport given the costs of establishing and marketing a new route.

Airlines will not be able to switch to a nearby airport unless that airport has the capacity available to take significantly more passengers. The nearby airport also needs to have the infrastructure and facilities to support the type of flights and passenger requirements of the other airport. An airline will only have the incentive to switch to a rival airport where the benefits from doing so (potentially including avoiding excessive charges) outweigh the costs of switching (which may include actual costs as well as a loss in passenger revenue from a less attractive airport for passengers).

Another relevant factor is whether the airport itself is capacity constrained. An airport would still have the incentive to set high charges even if it deters some potential demand since other airlines and passengers would take up that capacity so that the airport does not experience a loss in traffic.

In section 5, we put forward a set of tests to capture whether or not these various factors required for a nearby airport to create an effective constraint are present in the case of individual airports.

4.2 Whether airports at destinations offering similar types of holidays could effectively constrain airport charges?

In this section and the next, we consider whether effective constraints on charges could arise between airports that are not closely located to each other.

[36] See ACI, *The ownership of Europe's airports*, 2016.

Conceptually, an airport located at a holiday destination might be competitively constrained by an airport that serves another destination offering a similar type of holiday (e.g. a beach holiday) even if the airports are not located near to each other. This could be the case where the airport is serving mostly inbound holiday travellers rather than airports with passengers mainly from its local area or with significant numbers of business travellers and travellers visiting friends and relatives who need to travel to that specific destination.

Nonetheless, the extent to which even holiday travellers would be prepared to stop flying to a particular destination in response to excessive airport charges is an empirical matter. Destinations differ in terms of their attractions, costs and travelling times and people's reasons for visiting them (e.g. location of a holiday home). In Ryanair/Aer Lingus III, the European Commission stated: "*However, it also remains the case that for the vast majority of passengers, a flight from Ireland to one destination is not simply substitutable with a flight to another destination*."[37] Similarly, the US Department of Justice in its assessment of the merger between Virgin Airlines and Alaska Air Group stated the following:

> *"…most passengers book flights with their origins and destinations predetermined. Few passengers who wish to fly from one city to another would switch to flights between other cities in response to a small but significant and non-transitory fare increase".*[38]

In line with these conclusions, existing empirical studies of the elasticity of demand for short-haul leisure air travel suggest that leisure passengers are not generally sufficiently price sensitive as to effectively constrain airport charges. For example, even assuming an average elasticity of demand for leisure travel of -1.743[39] (which is more elastic than some other estimates) suggests that a 10% increase in airport charges if fully reflected in time in airfares would increase airfares by around a 1.5%[40] and reduce demand by leisure travellers by 2.6%. For such a demand response it can be seen that an airport would gain greater revenues from setting (new) charges 10% above the competitive level than to keep charges at the competitive level. For example, considering charges set 10% above the competitive level:

new revenues = new charges * new volumes

= (1.1 * old charges) * (0.974 * old volumes)

37 European Commission (2013), 'Case No COMP/M.6663 – Ryanair/ Aer Lingus III, Regulation (EC) No 139/2004 Merger Procedure', (2013) 1106 final, 27 February.60.

38 U.S. Government Federal Register (2016) Department of Justice – Antitrust Division (2016) United States v. Alaska Air Group, Inc., et al.; Proposed Final Judgment and Competitive Impact Statement, Vol. 81, No. 239, December 13, 2016, 89981. **(**https://www.gpo.gov/fdsys/pkg/FR-2016-12-13/pdf/2016-29883.pdf**)**

39 Gillen, Morrison and Stewart *Air Travel Demand Elasticities: Concepts, Issues and Measurement*, 2002, reported in Intervistas, *Estimating air travel demand elasticities*, 2007, p.8.

40 This assumes airport charges account for around 15% of airfares.

= 1.071 * old revenues > old revenues

The increase in an airport's profits would be even greater as, while its revenues would increase from setting charges above the competitive level, it would also save some costs from having to serve less traffic. Further, the above analysis assumes that all air travel to that destination is for holiday travel. The presence of some travel for business purposes or visiting friends and relatives would imply a smaller demand response and higher profits from setting charges above the competitive level.

While we believe that it is generally unlikely that an airport charges would be effectively constrained by airports at other destinations even where the airport mainly caters to inbound leisure travellers, there may be cases of primary holiday destinations for which passengers are highly price sensitive and willing to switch between destinations offering a similar type of holiday in response to small differences in prices. For example, this could be the case for destinations catering mainly for passengers on cheaper packaged holidays staying at resorts. There are also some existing elasticity estimates of travel which suggest a relatively high price responsiveness of tourism demand for visiting some countries such as Malta particularly for tourists from some countries of origin.[41] As such, regulators may wish to consider whether there is evidence to support the existence of an effective competitive constraint in relation to individual holiday-focused airports. As well as relatively price elastic demand, the airport would also need to have spare capacity so that it has the incentive to set charges to attract additional traffic.

4.3 Whether airports seeking to host hub operations could effectively constrain airport charges?

There are a number of reasons as to why general charges at any European airport are unlikely to be effectively constrained by other airports seeking to host hub operations.

The majority (or near majority) of passengers at European airports come from the local catchment area and this holds even for airports that have significant hub operations. For example, only around 30% of passengers at Heathrow, 24% at Paris, 35% at Amsterdam Schiphol and 55% of passengers at Frankfurt are transfer passengers.[42] Thus even if there was some competition for transfer passengers, many passengers even at Europe's largest

41 Gatt and Falzon find an own price elasticity of demand for German tourists to visit Malta of -10.08 which is much higher than the elasticity of demand found for other Mediterranean countries or for French tourists visiting Malta with prices measured by exchange-rate adjusted relative consumer price indices ("French and German Tourism in the Mediterranean – A market share analysis", *Journal of Tourism and Recreation*, Volume 1, 2014. The price measure used relates to the cost of spending in-country rather than the airfare although it might indicate a relatively high price sensitivity to all main components of the total holiday cost.

42 Amsterdam Schiphol Airport, 'Monthly Transport and Traffic statistics December 2016', April 2018', cell D100, Maertens et al (2015) How to assess the percentage of transfer passengers at airports?, p. 5; Press Release Aéroports de Paris A record year with 95.4 million passengers handled in 2015, p. 1.

hub airports would remain vulnerable to facing airfares inflated by excessively set airport charges.

Another implication of the large number of non-transfer passengers is that an airline that was contemplating switching to a rival hub would risk losing its ability to serve the local market in the airport's catchment area. Steer Davies Gleave assumed short-haul full-service carriers and regional carriers carry less than 20% transfer passengers while long-haul full-service airlines carry 35% transfer passengers.[43] As transfer passengers only represent a minority of a typical passenger planeload, competition from hub airports cannot be relied upon to effectively constrain general airport charges even if there is some competition for particular routes.

It is also the case that some passengers may sometimes be willing to switch between a direct route and an indirect route using a hub airport for price reasons. However, it is unlikely that this would effectively constrain general airport charges at the hub airport as only for some routes and some passengers would an indirect route be regarded as a close substitute for a direct route and, as noted above, transfer passengers tend to be a minority of passengers at Europe's airports in any event.

There is also some evidence of connecting passengers having strong preferences for particular European airports. For example, the CAA found this in the case of Heathrow.[44]

Airlines would also face substantial costs if they sought to shift hub operations to a rival airport. These include moving physical assets and staff, potentially early termination of contracts and being bound by regulatory restrictions relating to air traffic and landing rights. Many airline investments at an airport are sunk in that they would not be recoverable if the airline ceased using the airport – such expenditures would need to be incurred again at the new airport. The Steer Davies Gleave report for the EC noted:

> *"Sunk costs are high in the case of hub airlines of the size of Lufthansa: a large number of staff live in the vicinity of the airport, aircraft maintenance is done overnight in hangars located at Frankfurt airport, catering and cargo sorting facilities also need to be located close to the hub airport, Frankfurt airport has four runways when Munich only has two, Frankfurt airport passenger terminal capacity is currently 64 million passengers per annum (78 million after the completion of terminal 3), whereas Munich only reaches 61 million passengers, meaning that in reality whilst marginal capacity or growth can be shifted between the two airports, there is no realistic prospect of Lufthansa moving its hub to Munich or elsewhere in Europe since other airports are all reasonably or very congested."*

43 Steer Davies Gleave (2017) Support study to the Ex-post evaluation of Directive 2009/12/EC on Airport Charges, Final Report, p. 9.

44 CAA, *Market power determination in relation to Heathrow Airport*, 2014, para. D233.

Hub airports have also been found to benefit from significant economies/network externalities that tie the individual airline to the hub airport and make it more difficult for rival airports to attract airlines and passengers through price or non-price competition.[45] Bel and Fageda note that airlines gain from concentrating services at a transfer point as it allows the use of larger and more efficient aircraft at a higher utilisation rate while passengers gain from increased frequency and network scope.[46] Similarly the CAA has noted in relation to Heathrow airport that:

> *"Switching costs for BA (the home hub carrier) and its partner airlines, can be particularly high due to network benefits derived from connecting passenger feed and the presence of strategic partner airlines which cannot be found at other London or UK airports. Airlines in other alliances or unaligned carriers also face significant switching costs from the loss of network benefits (albeit slightly lower than those faced by partner airlines of BA). That said, a small number of airlines with little connecting traffic and few partner airlines might be more able to switch away."*[47]

Even airlines with multiple hubs (such as IAG and AirFrance/KLM) may face barriers to switching routes between their hubs. For instance, many of the routes served by their hubs in each country are to other countries with significant business and migrant ties to that country such as between Madrid and Latin America and between Paris and French-speaking parts of Africa. The demand generated by these ties is likely to support the viability of those routes and hence of those airports acting as hubs for wider travel between South America, Francophone Africa and Europe. Existing hub airports may also be capacity constrained so that airlines cannot readily switch significant traffic to them. There may also be political and customer pressure that would deter a country's flagship carrier from shifting operations to other countries.

These reasons indicate that competition from alternative hub airports is unlikely to exert an effective competitive constraint on the general level of airport charges.

4.4 Whether other transport modes could effectively constrain airport charges?

It is the case that some journeys which are currently made by other transport modes such as high-speed rail could have been made by air. However, for other transport modes to effectively constrain airport charges to competitive levels would require that there are sufficient numbers of passengers willing to switch to these modes in response to a 5% to

45 Starkie, *Airport regulation and competition*, Journal of Air Transport Management, 2002, vol. 8, issue 1.

46 Bel and Fageda (2007), *Airport Management and Airline Competition in OECD Countries,* in Fichert, Haucap and Rommel (2007) Competition Policy in Network Industries. p. 100.

47 CAA, *Notice of Determination under Section 8 of the Civil Aviation Act 2012: Heathrow Airport*, 2014, para. 5.25.

10% increase in airport charges to make that increase unprofitable. This would be the case where two transport modes are close substitutes.

In practice, however, particular transport modes dominate the supply of particular types of journeys. For example, regular passenger airlines are rarely used for very short journeys. The evidence indicates that High Speed Rail (HSR) tends to displace a substantial number of medium distance journeys over their routes. For example, the Spanish AVE in 2009 had 85% of the market share on the Madrid-Seville route and more than 70% of the Madrid-Malaga route while its share becomes modest on routes over 400 miles.[48] Albalate, Bel and Fageda observe that:

> *"The pressure of competition and its consequences seem to mitigate in the long run, especially once the market has adjusted to the entrance of the HSR competitor. Vickerman (1997) monitored the modal change provided by HSR in France and found that the increase in rail passengers was confined almost exclusively to the first years of HSR operations, becoming much more moderate thereafter. Similarly, Behrens and Pels (2012) consider that the evidence for the large market share gained by Eurostar on the London–Paris route, and the withdrawal of alternative air services, indicates that competition will certainly decline in the long run."*[49]

The permanent switch of a large segment of medium-distance passenger journeys to new HSR routes is likely to reflect passengers' valuation of factors such as travel time (including access to city centre), frequency, overall travel cost and convenience.[50]

An unregulated airport will set its aeronautical charges so as to maximise its profits taking into account the additional profits that can be earned from setting higher charges versus the existing profits that would be lost on traffic that would be deterred by higher charges. Traffic that has been permanently lost to other transport modes which an airport could not realistically attract would not be expected to factor into its pricing decision. Only a small share of an airport's existing routes are likely to be ones where significant passengers would be expected to consider other transport modes as close substitutes (i.e. where the distance starts to be so great that the speed of flying outweighs any advantages of the other modes). For example, HSR is likely to be an alternative for only a small minority of the routes available from an airport. This potential substitution would not be expected to effectively constrain the airport's general charges. In particular, the increase in profits from setting higher charges on overall traffic would be likely to substantially outweigh the lost profit on any deterred traffic on a small share of routes. This will further be the case because actual passenger switching to other transport modes on that small share of routes would be

48 As reported in Albalate, D., G. Bel and X. Fageda, "Competition and cooperation between high-speed rail and air transportation services in Europe", *Journal of Transport Geography*, 2014, p.2.

49 Ibid, p.2.

50 For example, Taniguchi found that the extension of the high-speed rail network in Japan led to a rapid fall in air passenger journeys which was attributed to higher frequency services, cheaper fares, proximity to city centres and safety and reliability (Taniguchi, M., 1992. High Speed Rail in Japan: A Review and Evaluation of the Shinkansen Train. *University of California Working Paper UCTC*, No. 103).

expected to be low given that a 5 to 10% increase in airport charges would lead to, at most, a 2% increase in airfares.

The conclusion that other transport modes would not effectively constrain airport charges was also reached by the UK Competition Commission:

> *"We therefore consider that substitution of other methods of transport for air travel is too weak to justify extending the airport market to include surface transport, such as rail. Although our evidence mostly relates to BAA's* [British Airports Authority] *Scottish airports, we consider that our conclusion is also valid for BAA's south-east airports, as flights to the relevant destinations are considerably less important in the South-East than in Scotland…".*[51]

4.5 Summary

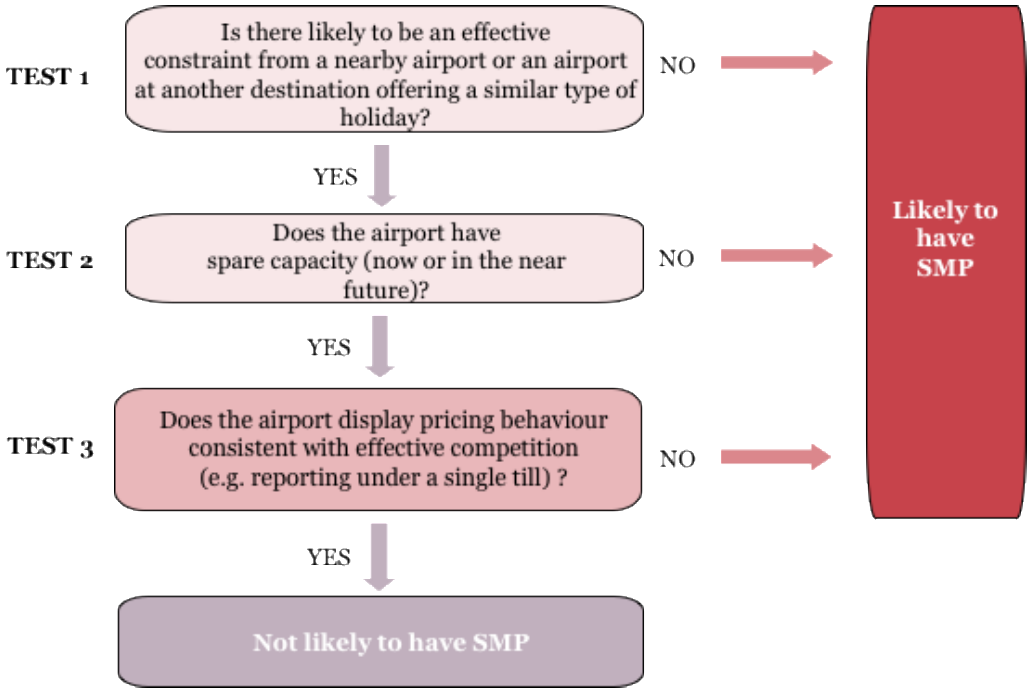
In this section, we have set out why potential competitive constraints on airport charges are only likely to arise from nearby airports and potentially for airports serving primarily leisure travellers and only under certain circumstances. In the next section, we develop criteria to test for market power on this basis.

[51] UK Competition Commission, *BAA airports market investigation*, 2009, para. 2.11.

5 A proposed set of screening tests for airport market power

This section sets out our proposed SMP screening tests in more detail. Figure 2 illustrates our proposed set of screening tests. An airport would need to pass all three tests to be considered unlikely to have SMP. Given that an airport that fails any of these tests would be considered as likely to have SMP, regulators may wish to consider at the outset whether there is readily available clear evidence to show that an airport would fail a particular test as this may avoid the need to compile the evidence required for the other tests. In some cases, the evidence relating to the tests may be inconclusive. While we believe that this is unlikely to occur frequently, we believe it would be reasonable for a regulator to make a decision on the balance of the overall evidence in these cases.

Figure 2: Proposed SMP screening tests for airports



5.1 Test 1: Is there an effective constraint from a nearby airport or an airport at another destination offering a similar type of holiday?

In Section 4, we found that for Europe's airports only two factors would be likely to be sufficiently strong to constrain an airport charges to competitive levels and that these factors would be effective in only some circumstances.

In section 4.1, we set out that an airport's charges could be competitively constrained by a nearby airport if:

i. there are other airports within a similar travelling time and cost from the centre of the main city or urban area served by that airport;

ii. the nearby airports have comparable infrastructure and facilities, sufficient spare capacity available and are under separate ownership to the airport being tested for SMP; and

iii. it is economic and practical for airlines to shift significant traffic to rival airports.

In Section 4.2, we found that while airports will not generally face effective competitive constraints from the ability of leisure passengers to shift destinations, there may be exceptional cases where there are effective constraints on holiday airports that have a very high share of inbound leisure passengers and where there is evidence that those passengers are highly price sensitive (such as may be the case for airports primarily serving passengers on cheaper packaged holidays).

In this section, we put forward an approach to test whether these conditions hold for an individual airport. In the following sections, we set out additional screening tests relevant to identify whether an individual airport is effectively constrained or whether it has SMP.

5.1.1 Testing for airports within a similar travelling time and cost

In Section 4.1, we noted that while passengers closely located to one airport may not be prepared to switch airports for a 5% to 10% difference in airport charges, more centrally located passengers may do so provided that going to the rival airport does not involve substantially greater cost or time. In particular, assuming for illustrative purposes that the competitive level of an airport's charges were on average £30 per one-way ticket, then an airport that sought to set charges 10% above this level might encourage passengers to switch to a rival airport if it were not more than €3 to travel to that airport. Given that studies have found that Europeans travelling for leisure value saving 1 hour of travel time by €12.67, passengers would also only be likely to switch to the rival airport to avoid €3 of additional charges if the other airport is not more than 14.2 minutes additional travelling time.

While these numbers are based on certain assumptions, in the absence of further information they could be used in a conservative way to test for whether a nearby airport is sufficiently close to provide a source of effective competitive constraint.[52] For example, testing for whether there is a rival airport that costs less than €4 extra and takes less than 20 minutes extra to travel to from the centre of the main city or urban area served by the

[52] However, such a test might not be necessary if the all the airports serving a city or country are under common ownership or do not have the capacity to take additional traffic. As such, it is worth considering the other conditions and tests set out in this section at a high level to determine if there is a way to short-cut the analysis.

airport being tested for SMP would be more likely to overestimate than underestimate the potential for nearby airports to create an effective competitive constraint. Such a test would be more likely to overestimate competition in that it is based on charges being set 10% above actual average charge levels, whereas lower travel cost and time thresholds would be found if using charges 5% above the competitive charge level.[53]

The methodology set out here could be customised to each individual airport's circumstances. Conceptually, the test should be based on an estimate of the competitive level of an airport's charges. Such an estimate could be available where the charges are currently regulated. If an estimate is not available, then a regulator could use the airport's actual charges albeit noting that this is likely to overstate the limit of additional travel cost and time to a rival airport before that airport ceases to effectively constrain an airport's charges.[54] A regulator could also customise the test by using information on the value of travel time savings specific to their country. There are studies of the valuation of travel time savings for many Member States. [55]

In assessing relative travel time and cost, it is appropriate to focus on the means of travel to an airport that is used by most leisure travellers as these are the more price-sensitive customers. And with reference to that particular travel mode, it is appropriate to focus on the type of ticket that would be bought by the more price sensitive passengers. For example, rail costs could be based on a one-month advance fare if this is the choice of travel to the airport that is most likely to be chosen by the most price sensitive passengers. Travel times and costs are provided by rail companies, websites such as trainline.co.uk and trainline.eu and often for different transport modes presented on airport websites.[56] In considering public transport, it is also relevant to consider whether the airports are comparable in terms of the frequency of the transport available. Note that both travel time and costs are relevant as travelling to a more distant airport at a similar cost (say by bus) would not be regarded as a close substitute if the journey takes much longer. Similarly, two airports would not be close substitutes for most passengers if the cost to get to one is much greater than the other even if it takes a similar time. Taxi fares in Europe are often €2 per km or higher (excluding the initial hire cost).[57] Even a 5km further distance can become a significant cost and, in any event, the more price sensitive customers are more likely to rely on trains or buses than taxis.

53 The competitive level of airport charges is also likely to be below the average level of actual EU airport charges because of the absence of effective regulation in all Member States.

54 Where actual airport charges are used it would be appropriate to consider the travel cost and time that would be offset by a 5% rather than 10% charge increase (i.e. the bottom end of the range competition authorities and regulators generally employ to assess a small but significant price increase).

55 See Wardman, M., P. Chintakayala, G. de Jong and D. Ferrer, "European wide meta-analysis of values of travel time", May 2012, Table 5

56 For example, see https://www.parisaeroport.fr/en/passengers/access/paris-charles-de-gaulle

57 For example, see https://tfl.gov.uk/modes/taxis-and-minicabs/taxi-fares/tariffs and https://www.telegraph.co.uk/travel/news/the-worlds-cheapest-and-most-expensive-cities-to-take-a-cab/

5.1.2 Testing whether nearby airports have comparable infrastructure, sufficient spare capacity and are under separate ownership

In section 4.1, we also identified certain additional conditions required for a nearby airport to create an effective constraint in practice.

The presence of another airport will not effectively constrain an airport charges to competitive levels if the airports are under common ownership or management. Such information is readily available.[58] Given the extensive common ownership of airports in many Member States, this information alone shows that many EEA airports will not be effectively constrained by nearby airports.

The existence of another airport serving the same local market will also not be a constraint unless that airport has the capacity, facilities and services to accommodate airlines switching to it.

Under IATA guidelines, a Level 3 Fully Coordinated Airport is defined as one where "*demand for airport infrastructure significantly exceeds the airport's capacity during the relevant period*" and where "*expansion of airport infrastructure to meet demand is not possible in the short term*."[59] A list of Level 3 airports in Europe is available at Annex 11.6 to the IATA Worldwide Slot Guidelines.[60]

Even some nearby airports that are not Level 3 may not have sufficient capacity available to accommodate sufficient additional traffic switching to it to make it unprofitable for the airport being tested to set excessive charges. Analysis undertaken by the UK CAA found that for the main London airports around 7-8% of passengers would need to cease using an airport to make setting charges 10% above the competitive level unprofitable (this percentage is known as the critical loss).[61] The CAA methodology can be reviewed to consider whether a similar or higher or lower critical loss is likely to be applicable to other airports in Europe taking into account their revenues and costs. However, it is reasonable to consider whether a nearby airport would have the capacity to support a growth in passengers of around this magnitude over and above the long term growth rate in their passengers. Eurocontrol produces a detailed manual for measuring airport capacity.[62] A report for the Irish Department of Transport, Tourism and Sport assessed capacity at Dublin airport and concluded that the strength of demand for peak capacity would be likely to limit airline countervailing buyer power.[63]

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58 See, for example, ACI, *The ownership of Europe's airports*, 2016.

59 IATA, *Worldwide slot guidelines,* 1 January 2017, p.24.

60 https://www.iata.org/policy/slots/Documents/wsg-annex-11.6.xlsx . Also see http://www.euaca.org/FTableList.aspx?list=87

61 CAA, *Market Power Determination in relation to Heathrow Airport*, 2014, Figure E.4, *Market Power Determination in relation to Gatwick Airport*, 2014, Figure F.19, *Market Power Determination in relation to Stansted Airport*, 2014, para. E66.

62 Eurocontrol, *Airport Capacity Assessment Methodology*, 2016.

63 Indecon, *Review of the regulatory regime for airport charges in Ireland*, 11 March 2016, p.32.

An indication of whether other firms in a market are likely to be able to constrain an undertaking's excessive pricing can also be obtained by considering the firm's market share. The larger a firm relative to the size of competing firms, the less likely it would be that customers would switch in sufficient numbers to make excessive prices by the larger firm unprofitable (depending also on the size of customer switching costs and of barriers to expansion for rival firms).

It is also relevant to consider whether the nearby airports have the infrastructure and facilities to accommodate the type of flights and passengers. In this regard, it is relevant to consider factors such as:

- Suitable airside infrastructure (including in terms of runway length/width/strength; taxiway width and strength; and separation distances Runway-Taxiway/Taxiway-Taxiway); and
- Suitable terminal infrastructure (e.g. passenger processing facilities, immigration facilities and compliance with passenger segmentation requirements in terms of Schengen passengers and arrival passengers).

Information on an airport's infrastructure is generally publicly available from airport and ISA websites.

5.1.3 Testing whether it is economic and practical for airlines to shift significant traffic to rival airports

The first two conditions in Test 1 show whether rival airports could potentially host additional traffic switching to it. However, it is also necessary to consider whether airlines would have the incentive to switch to avoid excessive airport charges. This requires that the costs of switching to be less than the cost of remaining at the airport and bearing charges set 5-10% above the competitive level.[64] Thus the third condition examines whether airlines would be credible in threatening to shift to a rival airport.

An airline switching to a nearby airport would be expected to incur a range of significant costs including the relocation of staff and assets (e.g. check-in facilities, airport lounges, maintenance facilities), marketing the new route and potentially needing to terminate existing service agreements early. It is also the case that if an airline would rather fly from the first airport then switching to an airport considered inferior could have other disadvantages such as deterring passengers through worse surface access or fewer passengers from connecting flights and lower yields. The costs of switching may be somewhat less if an airline already has operations at the rival airport (although many of the costs would still need to be incurred). Conservatively, we propose that one condition for an

64 While airlines would have more scope to choose between airports for new flights than to shift existing traffic, airports can offer discounts or forms of risk sharing for new routes without competition for new routes acting to constrain general airport charges.

airline to find it economic to switch to a rival airport in response to a difference in airport charges be whether it already has some operations at that airport.[65] This would need to be the case for an airline or airlines accounting for a significant share of the traffic at the airport being tested for SMP. Airport websites enable the share of traffic accounted for by each airline to be calculated.

In addition, existing air services agreements would also need to provide for the airlines to be able to serve the same destinations from the other nearby airport. The European Common Aviation Area (ECAA) allows any airline from any ECAA Member State to fly between any ECAA airports.

5.1.4 Testing for constraints from other airports at destinations offering similar types of holidays

In Section 4.2, we noted that there might be some destinations which might be considered close substitutes by passengers and where passengers may be willing to switch destination in response to the impact of excessive airport charges on airfares. As discussed earlier, this is only likely to arise where the airport has a high share of inbound leisure passengers, where those passengers are generally seeking a generic type of holiday (e.g. a beach holiday) and where the passengers are likely to be highly price sensitive. For airports that may potentially fall into this category, we present in this section tests that could be applied to identify whether the airport charges are likely to be effectively constrained in practice.

Ideally, the constraint on holiday airports would be assessed by examining data on how demand to fly to a specific airport has changed in response to changes in airfares to that airport or another factor impacting the overall holiday cost such as a tourist tax and exchange rates. In the absence of specific data on the price elasticity of demand for the airport, a regulator could consider a range of factors that could indicate relatively price sensitive demand. Demand will be more elastic, the higher the share of inbound leisure passengers compared to other types of passengers (such as those travelling for business, those visiting friends and relatives and people travelling from the local population). However, as noted in Section 4.2, even an airport serving only leisure travellers will not generally be expected to face sufficiently price sensitive demand for charges to be effectively constrained. Thus, we propose that the screening test require both that:

- at least 70% of overall passengers are inbound leisure passengers; and
- there is evidence showing or likely to indicate that a significant share of passengers[66] are highly price sensitive and would be willing to travel to other

[65] Our specific focus here is on whether airlines would switch to avoid excessive airport charges. It is the case that airlines change routes and increase or decrease flight frequency for many other reasons such as changes in overall demand for air travel. Evidence of such switching does not imply switching would be economic because of airport charges being set 5% to 10% above the competitive level.

[66] A significant share could be considered around the 7-8% share of passengers found by the CAA as the critical loss share that would need to cease using the major London airports to make charges set above 10%

destinations for a relatively small change in the relative airfares of flying to those destinations.

In the absence of having the elasticity data required to better assess whether charges would be constrained, these conditions are put forward as a practical way for regulators to screen for a potential competitive constraint and help reduce the resource burden on regulators. The exact share of leisure travellers required will depend on precisely how price sensitive they are with regard to flying to that particular destination. The minimum 70% is being put forward on the basis that the precise elasticity is not known but that a share less than 70% of leisure is highly unlikely to effectively constrain charges given available elasticity estimates discussed in Section 4.2.

We note that there is some data available on inbound leisure numbers for specific airports.[67] Passenger surveys to understand the passenger origin and the purpose of travel such as that undertaken annually for the UK CAA could also be undertaken by other regulators at reasonable cost. Another indication of a high share of leisure travellers can be gained by comparing the seasonal variability in airport traffic. Airports that have the largest differences in passenger numbers between the busy month and the quiet month are more likely to be airports catering mainly to leisure passengers (e.g. July and August peaks for beach holiday destinations). A greater share of tourists are also likely to be more willing to switch between such destinations with large seasonal variability in traffic compared with destinations with a more specific identify that attracts tourists throughout the year.

Local tourist surveys may show to what extent leisure passengers are flying to a particular destination for a generic type of holiday (such as a beach or ski holiday) rather than for specific features of the destination. For example, the Malta Tourism Authority surveys tourists as to their motivations for visiting Malta (such as sun, culture, etc) and the extent to which cost/value for money determines their choice.[68] Destinations which mainly cater to passengers on package holidays staying at resorts may face more price sensitive demand than destinations where travellers visit more for distinctive features and attractions unique to that destination. Evidence of passengers' willingness to switch between destinations can also be inferred from passenger numbers over time particularly to what extent an airport's demand is affected by 'events' at other destinations such as the opening of new routes. In Test 3 discussed later in this section, we also propose that evidence on actual airport pricing behaviour be considered.

67 This includes airport annual reports (eg Malta Airport reports 2 million inbound tourists), data collected by regulators (e.g. the CAA's annual passenger surveys for UK airports) and national statistical bureaus as well the statistics on the proportion of leisure passengers from Airport Facts pages for individual airport profiles from the Anna Aero (eg http://www.therouteshop.com/profiles/keflavik-airport/). We note that further analysis would be required in order to disaggregate incoming and outgoing data on leisure passengers for individual airports.

68 MTA, *Tourism in Malta: Facts and figures 2016*, p.12-13.

5.2 Test 2: Does the airport itself have spare capacity (now or in the near future)

Even where there is the potential for some demand to switch to alternative nearby airports or alternative holiday destinations, an airport may still find it profitable to set excessive charges if overall demand remains high relative to its own capacity. In particular, an airport losing some customers may be able to simply replace them with new flights and passengers. As the CAA notes: "*Capacity constraints at an airport can constrain its ability to attract new airline business and reduce the adverse impact of airlines switching services away from the airport, which might reduce the airport's incentive to deliver appropriate price and service levels.*"[69]

As such, we believe that in addition to testing for a potential source of competitive constraint, it is also necessary to examine whether the airport being tested for SMP has spare capacity or will have spare capacity during the forthcoming regulatory period because of significant planned expansion.

An airport should have at least some spare capacity if it is not a Level 3 Coordinated airport.[70] Where an airport is Level 3 Coordinated, then any planned expansions over the forthcoming regulatory period can be considered relative to long run demand trends. An airport that will have difficulty fulfilling its capacity would be expected to set charges at more reasonable levels if there is the potential to lose demand to nearby airports or other destinations.

A benefit of regulating capacity constrained airports is that by removing their ability to profit by restricting capacity and setting excessive charges, the airports may instead consider ways in which they can support higher traffic through capacity development and more efficient operations. There is evidence that airports have grown capacity even in the context of current planning restrictions.

> *"…consistent data on capacity is not available, but data from ACI EUROPE shows that there were substantial increases in capacity at the largest airports in Europe in the ten years to 2015, with two-thirds of the airports for which data is available expanding terminal capacity over this period."*[71]

69 CAA, *Airport market power assessments – Annex to the CAA's Initial Views* - February 2012, para. 3.2.

70 See IATA, *Worldwide slot guidelines,* 1 January 2017, p.24. Information on an airport's coordination level is available at https://www.iata.org/policy/slots/Documents/wsg-annex-11.6.xlsx and http://www.euaca.org/FTableList.aspx?list=87

71 Oxera, *The continuing development of airport competition in Europe*, September 2017, p. 64.

5.3 Test 3: Does the airport display pricing behaviour consistent with effective competition (e.g. reporting under a single till).

Tests 1 and 2 consider whether there is likely to be an effective source of competitive constraint given the circumstances of the airport and of potentially competing airports (i.e. the structural characteristics of the market). Examining direct evidence of pricing behaviour and profitability may also help to confirm whether or not an airport's charges are constrained to competitive levels in practice. For example, the UK Office of Fair Trading has noted:

> *"Depending on other available evidence, it might, for example, be reasonable to infer that an undertaking possesses market power from evidence that it has:*
>
> *• set prices consistently above an appropriate measure of costs, or*
>
> *• persistently earned an excessive rate of profit."*[72]

As such, we propose that airports that pass both Test 1 and Test 2 should be assessed with reference to Test 3: whether the pricing behaviour is consistent with what would be expected in a competitive market.

Given the definition of SMP as the ability to profitably maintain prices above the competitive level for a significant period of time, it may be thought that the existence of returns above the cost of capital offers a simple test of SMP. However, there are a number of reasons for caution in making such inferences and profitability evidence should not be used on its own. First, there are issues in measuring both returns from accounting data (such as the treatment of intangible assets such as brand and staff training) and in estimating a firm's cost of capital (such as uncertainty over the precise beta and equity risk premium). Adjustments can be made to accounting data to better estimate economic profitability and the need for such adjustments in relation to airports is likely to be smaller than for industries which are more labour-intensive and where marketing expenditure is more significant. Uncertainty over the cost of capital can be addressed by setting the threshold for this test as being significantly above the central estimate of the cost of capital (such as 20% above).[73] Where a regulator has estimated the cost of capital for an airport they can use information on the standard error of the beta and the equity risk premium to estimate the precise range for the cost of capital for which they can be 95% confident that the true figure lines within that range. Thus returns greater than the top end of the range could then be considered as indicative of excessive profitability.

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72 OFT, *Assessment of market* power, para. 6.4.

73 Our review of estimates of the pre-tax nominal weighted average cost of capital for European airports found most estimates lying within 20% of the average estimate.

Second, little can be inferred from a snapshot of profitability such as whether returns in one year exceed the cost of capital. Ideally, returns would be estimated over the lifetime of the investment and then assessed against a reasonable threshold. In addition, where expected returns to an investment are highly uncertain, ex post returns may be above or below the cost of capital without implying market power. However, regulators have generally regarded such risks as more relevant to new technologies than to established businesses such as airports.[74] As the UK Office of Fair Trading noted, it is necessarily to consider whether a firm has persistently earned excessive returns, i.e. measured over several years.

Third, while economic returns that are significantly and persistently above the cost of capital are likely to indicate SMP, lower profitability need not imply the absence of SMP. In particular, in the absence of competitive constraints some airports may have inefficiently inflated costs because of a lack of an effective cost discipline on management. Where rate of return regulation is applied it may also encourage airports to inflate ('gold-plate') their capital base so that they can earn a high monetary return, i.e. the product of multiplying their regulated percentage rate of return by the inflated value of their capital base. Thus as well as examining profitability evidence, regulators should also consider whether there is evidence that an airport's costs are significantly above the costs of similar airports particularly airports for which costs are expected to be constrained to efficient levels.

Whether an airport uses a single, dual or hybrid till approach

One factor that is likely to indicate excess profitability is where the airport sets its aeronautical charges to airlines so as to fully or largely recover the airport infrastructure costs, i.e. with little or no contribution from profits from its non-aeronautical services (e.g. retail concessions and car parking). In particular, under a 'dual-till' approach the revenues and costs of aeronautical activities are separated out from non-aeronautical activities with the aeronautical charges fully covering the airport's infrastructure cost. This contrasts with a 'single till' approach in which profits derived from non-aeronautical activities help cover the cost of the airport's infrastructure. A hybrid till approach allocates a fixed proportion of non-aeronautical revenues to the recovery of the airport infrastructure and hence depending on the proportion may be closer to a dual-till or single till approach.

In Europe a range of 'till' approaches are deployed by airports. Table 1 shows till approaches for a number of airports. This draws on data included in a recent European Commission report although we have made some amendments based on information from IATA and Airlines for Europe members.

74 For example, telecom regulators have sometimes allowed a premium over the cost of capital for investments in new fibre networks, but these have been time limited and such premiums are not applied to traditional copper networks.

Table 1 - Till approaches in Europe

	Single till	Dual till (including hybrid)
No economic regulation	Bucharest, Group: Sweden	Sofia, Prague, Helsinki, Manchester*, Edinburgh*
Light-handed regulation	Gatwick	Koln, Berlin - Tegel, Berlin-Schönefeld, Frankfurt, Hannover, Hamburg, Munich, Stuttgart
Price cap regulation	Marseille, Dublin, Heathrow, Toulouse Group: Norway	Vienna, Brussels, Copenhagen, , Budapest, Bologna, Naples, Nice, Verona, Thessaloniki Groups: Milan, Paris, Roma, Portugal, Spain
Rate of return regulation		Geneva, Zurich, Athens, Amsterdam, Ljubljana, Warsaw

*Source and notes: European Commission, DG MOVE (2017) Ex-post Evaluation of Directive 2009/12/EC on Airport Charges, Table 8.1, Swedavia Pricing (2017) Swedavia Price Decision Airport Charges 2017. Dirección General de Aviación Civil (2017) Airport Regulation Document 2017 – 2021, p10, IATA, A4E; Leigh Fisher, Comparing and capping airport charges at regulated airports, 2012. * Airports identified by IATA/A4E as operating a dual/hybrid till. IATA identified Toulouse as single till and the till approaches of the following airports as unknown: Stansted, Luton, Birmingham, Glasgow, Bristol, Heraklion, Luxembourg, Zagreb, Vilnius. Dual till with no regulation means separate reporting of aeronautical and other activities in the financial statements. In Sweden, move to dual till expected in 2017 but postponed. In Spain dual till since 2017.*

In a competitive market firms are assumed to price down to costs (including the cost of capital) to attract customers. A firm that set its prices significantly above costs would risk losing its customers to rivals who could undercut its prices while still recovering costs. An airport facing competition would be expected to set its aeronautical charges taking into account the costs of providing aeronautical services as well as the additional net profits that it obtains on non-aeronautical services through attracting additional passenger volumes. Under competition, an airport that set aeronautical charges solely on the basis of the costs of providing aeronautical services would face losing airlines and passengers to a rival airport that could offer lower charges while still recovering its overall costs through the profits available from its retail and other non-aeronautical services.

Airports that set their aeronautical charges to fully recover infrastructure costs will be earning excessive profits overall. This is because airports earn significant revenues above costs from their retail and other non-aeronautical services. Non-aeronautical revenues are estimated to account for around 40% of global airport revenues.[75] Credit Suisse estimates that the introduction of a single till approach to regulation at Frankfurt Airport would lead to a 14% reduction in aeronautical charges and at AENA's airports a 12% reduction.[76]

It should also be noted that an unregulated airport that faces no competition would also be expected to use commercial revenues to help recover aviation costs. As such, pricing on a single-till basis does not prove the existence of effective competition although the use of a

75 ACI, *Airport economics at a glance*, 2018.

76 Credit Suisse (2017), European Airports, Equity research, 18 January, p. 50.

dual-till does indicate the lack of effective competition. A hybrid till approach in which there is little contribution from commercial revenues compared with airports under a single till would also indicate the lack of effective competition.

Making inferences about market power from the till approaches would be more complicated where an airport is part of a common charging system with other groups. As noted above, the existence of a single till approach is not sufficient to conclude that there is no SMP either for an individual airport and also for a group of airports under a common charging system. However, the existence of a dual till as part of a common charging system is likely to indicate that at least some of the airports in the system have SMP. In addition, evidence of cross-subsidies within a common charging system would also indicate that at least some of the airports within the system are generating excessive profits relative to their costs. At a minimum, a system of cross-subsidies under a common charging system warrants regulatory review.

Other pricing evidence

Finally, we note that other pricing evidence may also indicate the presence or absence of SMP. For example, if an airport maintains its charges while a nearby airport has significantly reduced its charges then it is unlikely that the nearby airport forms an effective constraint. On the other hand, evidence that an airport has had to respond to cuts in charges by nearby airports and has not gained market share is likely to indicate a lack of SMP. Evidence of pricing not being kept in line with underlying costs may also warrant further investigation to determine whether it demonstrates the absence of competitive constraints. Evidence that two nearby airports are not setting charges in order to take airlines from the other (such as through undercutting the other's charges) would also suggest a lack of effective competition.

Where airlines have been able to reach agreements on airport charges for the forthcoming regulatory period that they believe are reasonable this may also be useful evidence given airlines have information on airport charges across their routes. However, a selective price discount offered to only some airlines should not be taken as sufficient evidence of effective competition – monopolists can often maximise their profits through setting customer-specific prices. Further, a discount offered on an already inflated level of airport charges may not be sufficient to lead to actual charges being in line with competitive levels.

5.4 Summary of proposed screening tests

Our proposed screening tests for airport SMP are summarised below. An airport that fails any of these tests would be considered as likely to have SMP.

Test 1 (nearby or holiday airports): Is there an effective constraint from a nearby airport or an airport at another destination offering a similar type of holiday?

i. An airport's charges could be competitively constrained by nearby airports if all the following conditions hold:

   - Whether there are other airports within a similar travelling time and cost from the centre of the main city or urban area served by that airport (e.g. that cost no more than €4 extra and that take no more than 20 minutes extra to travel compared with the airport being tested for SMP);
   - The nearby airports are under separate ownership, have sufficient spare capacity available and have comparable infrastructure and facilities as the airport being tested for SMP;
   - Whether it is economic and practical for airlines to shift significant traffic to rival airports. A proxy for this would be whether airlines accounting for a significant share of the airport's traffic already have operations at the nearby airport and whether those airlines would be allowed to serve the same destinations from the nearby airport under existing air services agreements

ii. An airport could face competitive constraints from other airports at destinations offering a similar type of holiday (e.g. beach or ski holiday) if the following condition holds:

   - that the airport under review has a high share of inbound leisure passengers (i.e. at least 70% of overall passenger numbers); and
   - there is evidence indicating that a significant share of passengers would be willing to travel to other destinations for a relatively small change in the relative airfares of flying to those destinations.

Test 2 (capacity constraints): Does the airport have spare capacity (now or in the near future)

Test 3 (pricing behaviour): Does the airport display pricing behaviour consistent with effective competition, e.g. reporting their position on a single till basis.

6 Potential remedies to address airport SMP

Where an airport is found to have SMP, there is then the question as to how to effectively prevent the exploitation of that market power. As implied by the definition of SMP in competition case law, an airport with SMP would have the incentive to maintain prices above the competitive level and/or limit volumes, quality and innovation below competitive levels.

Ex ante regulation to cap airport charges in line with efficient costs including the cost of capital can be expected to be the most effective and efficient means to prevent excessive charges by an airport with SMP. Ex ante regulation enables a specialist regulator to assess factors such as the costs necessarily incurred in supplying the services, the approach to depreciation of capital costs, the cost of capital and the allocation of costs to different services. A regulator can consult on such matters with industry stakeholders and acquire technical expertise as required. By setting the cap on charges in advance, ex ante regulation provides greater certainty to both the airport owner and airlines.

To instead rely on ex post competition law, would lead to a court having to make difficult judgments on these highly technical matters. It would also lead to high uncertainty as even the airport would not know in advance if the charges it is setting would later be found to be excessive. Courts are also not equipped to continue to monitor whether prices are maintained in line with the efficient price level over time. While competition law works well in protecting the existing level of competition in markets[77], it is poorly suited to preventing the exploitation of existing market power.

An industry specific regulator and an ex-ante regulatory approach is generally considered the most effective way to address SMP in equivalent industries where firms have enduring market power such as parts of the communications, energy and transport industries. In telecoms, where an operator is found to have SMP this generally leads to the imposition of some form of price regulation (potentially together with other access remedies such as transparency and non-discrimination).

The CAA in the UK has also rejected that competition law alone can effectively remedy airport SMP:

> *"Ex post competition law, whether under the Competition Act 1998 or the Enterprise Act 2002, is not well adapted to pre-empting conduct which amounts to abuse of SMP in the form of excessive pricing or reduced service. There are also considerable challenges for the users of air transport services, particularly passengers, who are affected by this kind of abuse in bringing*

77 The European Commission's *Inception Impact Assessment on Charges for the use of airport infrastructure* raises an additional market problem concerning an airline with significant buyer power influencing the airport charges setting process to impose barriers to other airlines. This is the type of leveraging of current market power to foreclose competition in a related market that general competition law already addresses effectively.

> *challenges or seeking damages based on competition law. This limits the likely deterrent effect of competition law… When the market is impaired by the existence of SMP which brings with it the risk of abuse by the holder of that SMP, there is a need to open markets and construct remedies that are detailed, timely and able to be flexed over time. The CAA has concluded that in relation to HAL* [Heathrow Airport Holdings Limited]*, competition law will not readily present such incentives or offer effective and/or timely remedies. In such circumstances, it is appropriate and proportionate to look at regulatory controls.* [78]

In Section 5.3, we noted that airports earn substantial profits on their retail and other non-aeronautical activities. Regulation on a single till basis with an airport's overall revenues set to just recover the airport's overall costs can enable lower aeronautical charges and increase overall benefits to consumers. The economics literature shows that it is generally efficient to price complementary activities taking into account the demand interrelationship and that competition in such markets will lead to normal profits being earned with the total marginal revenue from expanding passenger volumes equal to the total marginal cost.[79] There are also many examples from other industries in which prices on one-side of a platform are kept low with costs being recovered largely or solely from other activities, e.g. broadcast TV and some newspapers are even supplied for free to individuals with costs recovered from advertising.

There is evidence that a single till approach better approximates welfare-maximising efficient pricing for uncongested airports and that this holds even where airlines have market power.[80] However, some academic papers find that a dual till approach may be superior if there is airport congestion and if the additional profits help fund investment in capacity development. The UK Competition Commission considered arguments for and against a single till for the London airports and concluded in favour of a single till. Key elements of the Commission's reasoning were:

i. there was no evidence that the single till had led to any general underinvestment in aeronautical assets at the London airports in the past, nor any expectation that it would do so over the next five years;

ii. a dual till was not expected to lead to significantly better aeronautical investment in the future and in some respects was likely to be worse;

iii. a dual till would only marginally improve the efficient use of capacity;

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78 CAA, *Market power determination in relation to Heathrow Airport – statement of reasons*, para. 2.10, 2.11 and 2.13.

79 See M. Rysman, "The Economics of two-sided markets", *Journal of Economic Perspectives*, Vol. 23, Number 3, Summer 2009.

80 Czerny, Guiomard and Zhang, "Single-till versus dual-till regulation of airports where do academics and regulators disagree", p. 19.

iv. it is conceptually perverse to separate commercial and aeronautical facilities as commercial revenues would not be generated without the aeronautical facilities;

v. it was reasonable for the benefits of commercial activities to be shared with airlines and airline users as the development of commercial revenues requires airlines to attract passengers to the airport; and

vi. a shift to a dual till would lead to higher airfares with little or no offsetting benefits.[81]

Wider European evidence also suggests that a single till approach can ensure sufficient revenues to support efficient investment levels. Single tills can also be applied with adjustments to support airports making commercial investments where they will bear the risks by excluding the revenues and costs of those investments from the calculation of the price cap.[82]

Figure 3 shows capacity utilisation for airports operating under both regimes. The capacity utilisation index (CUI) has been estimated by SEO. [83] The higher the value of the index, the higher capacity utilisation and capacity constraints. The Figure shows that there is no systematic relationship between the regulatory regime and capacity constraints. We also note that airports such as Barcelona, Madrid and Dublin airports have significantly increased their capacity from 2005 to 2015 while then operating under a single till system.[84]

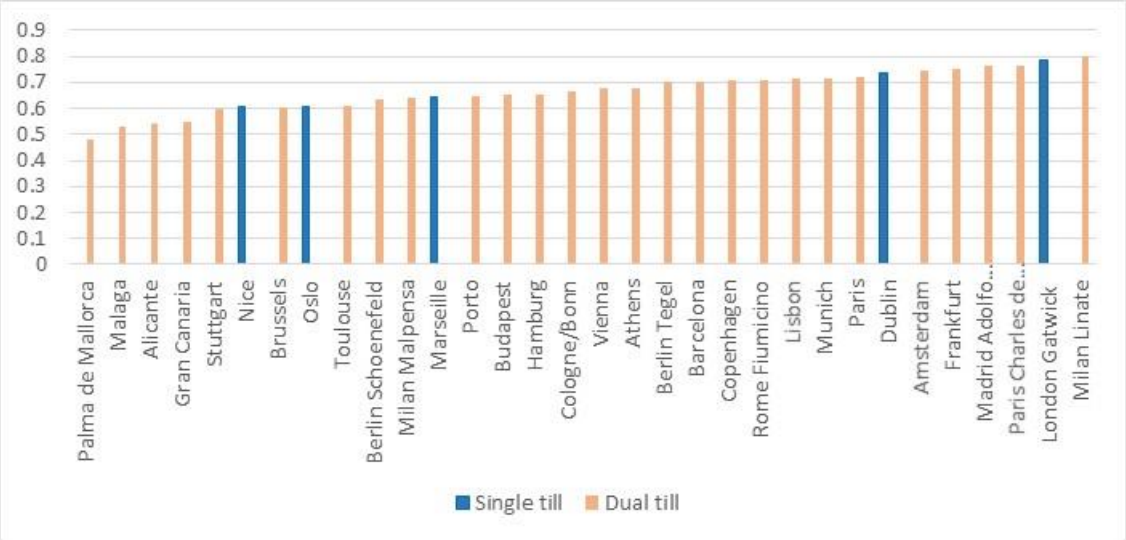
81 UK Competition Commission, *A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd*), 2007, para. 3.7.

82 For a discussion of how capex adjustments can work in practice under a single till see Commission for Aviation Regulation (2012) Investments *in Commercial Activities: Capex Consultation Guidance and Implications for the Regulatory Till*, Commission Paper 3/2012, December.

83 SEO, 2017, The impact of airport capacity constraints on air fares. SEO Amsterdam Economics, 27 January 2017.

84 Dirección General de Aviación Civil (2017) AIRPORT REGULATION DOCUMENT 2017 – 2021, p. 10. http://www.aena.es/csee/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=3000003412068&ssbinary=true&blobheadername1=Content-disposition&blobheadervalue1=attachment;%20filename=Airport%20Regulation%20Document%20DORA%202017-2021b.pdf

Figure 3 - Airport capacity constraints in relation to till approach



Source: Table X with till approaches. SEO, 2017, The impact of airport capacity constraints on air fares SEO Capacity utilisation index. The index estimates capacity utilisation relative to the 5% busiest peak hour and is defined as the average number of movements per hour divided by the 5% peak hour capacity.

Finally, we note that in determining an efficient level for aeronautical charges, regulators should also consider whether an airport's costs are efficient. In the absence of effective competition, airport management may not have a sufficient discipline to maintain costs at efficient levels. Rate of return regulation, in particular, can create incentives for airports to incur unnecessary investments so as to inflate their capital base and the allowed monetary return on that base. A dual till approach can also create an incentive for airports to allocate costs of non-aeronautical activities to the aeronautical till. Benchmarking can help regulators to estimate an estimate level of costs particularly by reference to airports expected to face similar cost drivers. A price cap approach which is set for several years (e.g. a cap based on the inflation rate minus expected annual improvements in efficiency) can encourage an airport owner to find new cost saving innovations as they will retain the benefit of that saving until the next regulatory period.

7 Recommended general framework

In this report, we have set out how a streamlined approach can be practically applied to regulate airport market power and ensure that passengers do not bear the cost of excessive airport charges indefinitely. Given the findings of the Ex Post Evaluation report for the European Commission that not all national regulators are appropriately resourced and incentivised to regulate their local airports, there is a case for the European Commission to ensure that regulation is imposed where necessary on a timely basis. We believe that the following framework could help achieve this:

- National regulators would be required to apply three SMP screening tests to all airports with over 5 mppa;
- The three screening tests are:
  - Test 1 - Is there an effective constraint from a nearby airport or an airport at another destination offering a similar type of holiday?
  - Test 2 - Does the airport have spare capacity (now or in the near future)
  - Test 3 - Does the airport display pricing behaviour consistent with effective competition, e.g. reporting their position on a single till basis.
- Regulators would retain the option to conduct full market power assessments if there are unusual circumstances warranting more in-depth investigation;
- Where an airport is found likely to have SMP then the airport would need to be regulated within a specified time period (e.g. 12 months) unless a full market power assessment was conducted within that period showing that the airport does not have SMP;
- The European Commission should have a role to review draft full market power assessments by national regulators to ensure that the analysis is reasonable and based on sound evidence (the Commission performs a similar role under the telecoms framework); and
- Airports with SMP should be subject to ex ante price caps determined on a single till basis and by reference to estimated efficient costs.

Appendix A **Abbreviations**

ACD	Airport Charges Directive
CAA	Civil Aviation Authority
ECAA	European Community Association Agreement
EEA	European Economic Area
EU	European Union
HSR	High Speed Rail
ISA	Independent Supervisory Authorities
O&D	Origin and Destination Passengers (i.e. not connecting passengers)
SMP	Significant Market Power