

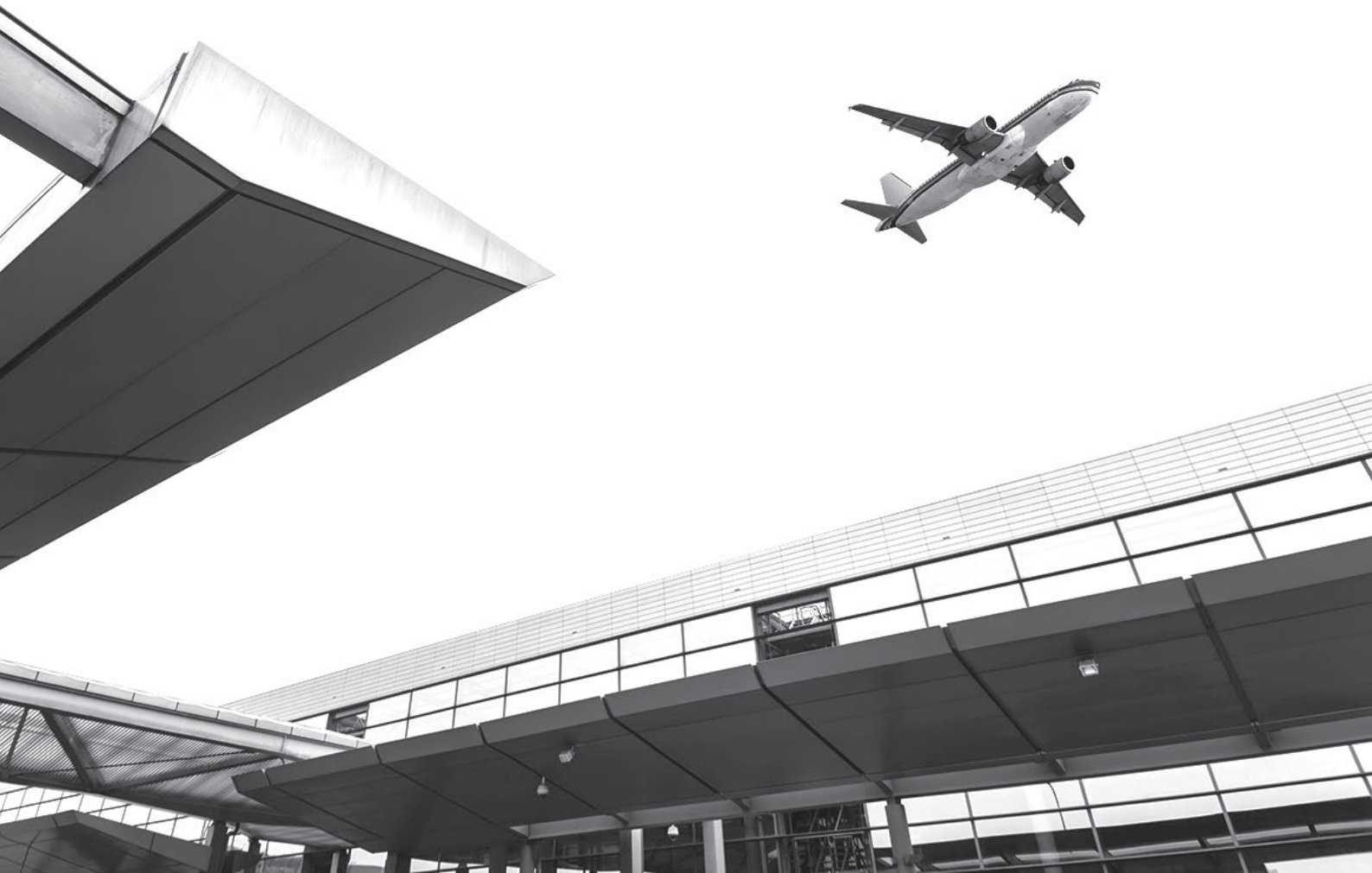


Airport Competition

IATA ECONOMICS BRIEFING N° 11



Assessing the extent of competition within the airports sector and making the case for robust economic regulation to protect consumers.



IATA Economics Briefing N° 11:
AIRPORT COMPETITION
V 1.1

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IATA, November 2013



01 | Executive Summary

As the gateways to aviation, airports are a key link in the air transport journey chain, and therefore play an important role in facilitating tourism, business travel and global supply chains. For incoming travellers, the airport contributes to their first impression of a city or country. And for outbound travel, particularly on short-haul journeys, passengers may spend as much, or even more, time at the airport as they do in the air.

IATA would therefore encourage developments which make the airport sector more responsive to the needs of their passenger and airline customers. Competition in the airline sector has been a driver of innovation and cost reduction and has delivered major benefits for consumers in terms of increased choice and value. Effective competition between airports is clearly something to be encouraged for the same reasons.

Advocates of deregulation have presented analysis which suggests that there are limited signs of some airports being subject to and responding to competitive pressures. They argue that structural change in the aviation industry has reduced the need for economic regulation of airports.

Such arguments rely on an incorrect interpretation of patterns and shifts in airline route networks. In this briefing note we show that effective competition between airports remains the exception rather than the rule. In particular, major airports continue to enjoy a strong position in their local markets such that market forces alone may not ensure the best outcome for consumers:

- The process of privatisation is far from complete and so many airports remain insulated from competitive pressures. Only **9%** of airports in Europe were in wholly private ownership in 2010¹. **78%** of European airports remained in majority public ownership and control in 2010, with a further 13% in mixed public-private ownership;
- Even in 2010, at the height of the European economic crisis and with passenger numbers in decline, more than **a third of European airports**, including **21 of 24 major airports**, raised their charges, compared with just **17%** that reduced them.

We also show the importance of distinguishing between smaller airports where in many cases there is excess supply of airport capacity, both at the airport itself and within its peer group, and the major airports, in particular those serving large cities and conurbations, where airports benefit from significant market power.

The distinction is important as it shows that robust and effective economic regulation of major airports is required in order to ensure the best outcome for consumers. Smaller airports, where there may be more evidence of developing competition, tend to be deregulated or subject to more light-touch forms of economic regulation.

In contrast to the airports sector, the airline industry is already highly competitive with competition driving lower fares for consumers. Suggestions that airlines are 'footloose' and will readily switch away from major airports and key markets ignore the scale of the profitability challenge that airlines face.

Airlines need to serve airports and markets where they can generate sustainable levels of traffic and yield. As a result, airlines face significant costs and revenue effects in switching between airports. In 2014, even factoring in expectations of global economic recovery, airline profits are forecast to be less than \$5 per passenger. It is clear to see how easily increased airport charges could erode that.

Set against this context, it becomes clear that where airlines switch capacity between routes and airports, this is part of a normal process of network optimisation rather than evidence of widespread evidence of airlines exerting countervailing buyer power.

As demand for air transport continues to grow and expansion of major airports becomes more difficult, the market power of major airports is expected to get stronger not weaker. In Europe alone, nearly 20 airports are forecast to be operating at full capacity throughout the day by 2030 compared to just 5 in 2007². Effective airport competition will be even less likely where capacity constraints at alternative airports reduce the options available to consumers and airlines alike.

This report therefore calls for policy-makers and regulators to adopt a careful case-by-case approach to assessing airport competition based on the more sophisticated analytical tools set out in this paper. Competitive forces alone cannot be relied upon to ensure a fair outcome for consumers and other airport users.

¹ ACI-Europe, The Ownership of Europe's Airports, 2010

02 | Introduction

Airports offer access to essential infrastructure and services that facilitate air transport. In addition, airports can play a critical role for economic development on local, national and regional levels. The effective and efficient development and functioning of airports is therefore important for the sustainable development of air transport in particular and the economy as whole.

As we demonstrate in Chapter 3, there is considerable evidence that passengers prefer to use their local airport. This means that most airports have a degree of market power, at least at a local level. For this reason, Governments use economic regulation to protect passengers and shippers. The most commonly used approaches are cost-based or price-cap regulation, which both attempt to replicate the outcomes that would be expected in a competitive market.

However, the aviation market in many world regions is undergoing, or has undergone, a period of significant structural change, with the intention of making it more dynamic and responsive to market needs and passenger preferences.

In this briefing note, we consider the extent to which these factors have changed the nature of the relationship between airlines and airports, and had an impact on outcomes for consumers. In particular, we examine whether the competitive dynamics within the airport sector have evolved.

In order to examine the extent to which airports are subject to competitive forces, it is important to understand the nature of the relationship between airports and both passengers and airlines. In Chapter 3, we consider the competitive dynamics in terms of overlapping geographies or catchment area, for example between different airports serving the same city or metropolitan area.

In Chapters 4 and 5 we examine whether airports across different geographies exert competitive pressures on each other. In particular, we set out to understand whether 'footloose airlines', or even 'footloose passengers', drive a much broader form of competition between airports and serve to constrain airport market power and pricing behaviour.

We find that, in most cases, market changes have been driven by, and result from, the intensity of competition in the airline sector both at individual route and firm level rather than from competition between airports themselves. This distinction is important because it suggests that market forces alone may not be enough to constrain airport behaviour.

It is also clear that the competitive environment is not the same in all markets and for all airports. This has important implications for policy-makers and regulators. On routes serving smaller airports and markets, and where both consumers and airlines enjoy a wide range of choices, effective airline competition will be sufficient to ensure the best outcomes for consumers and the benefits of economic regulation are unlikely to outweigh the costs.

However, this is not the case for most larger airports, and for airports serving major population centres or serving a specific niche. Given airlines' challenge in achieving sustainable profitability, airlines face strong incentives not to switch away from airports where they are able to generate satisfactory levels of load and yield. Indeed, airlines often have to absorb high airport charges in order to sustain passenger markets. Moreover, we show that airlines face significant switching costs in reallocating capacity between airports. The result is that in a majority of markets airport competition remains limited at best and most airports retain a degree of market power, at least at the local level.

² European Commission, 2011, Airport policy in the European Union - addressing capacity and quality to promote growth, connectivity and sustainable mobility.

03 | Airport Competition: The Airport Perspective

A recent paper prepared for ACI-Europe, the European branch of Airports Council International, by the economic consultancy Copenhagen Economics argues that as a result of liberalisation in both airline and airport markets, the flexibility and choices available to airlines and passengers now constrain the commercial behaviour of airports.

The report highlights liberalisation of the airline sector and the corporatisation, and in many cases, privatisation of airport companies as two developments that have potentially redefined the nature and extent of competition in the airports sector.

The central hypothesis is that airports now have to compete with one another on price and service quality in order to retain and attract the traffic they need as both passengers and airlines are now 'footloose'. The implication is that economic regulation is no longer necessary at many airports. This Chapter summarises the principal arguments put forward by advocates of deregulation regarding passenger and airline behaviour.

In order to argue that there is competition between neighbouring airports, airport catchment areas³ based on travel times are used to show that over 60% of the European population live within two hours' driving time of at least two airports. Aligned with the growth in the number of direct routes served by airlines, this is suggested as evidence of higher consumer choice. We discuss airport catchment areas in detail in Chapter 3 of this briefing note and find that catchment area analysis based on isochrones maps is both partial and simplistic.

The 'footloose passengers' narrative argues that passengers are becoming more price sensitive, partly as a result of greater awareness of and familiarity with low-cost airlines as well as the ease of searching and booking over the internet. This is used to suggest that passengers are becoming 'footloose' in terms of the destinations they visit, and that, as with the catchment area argument, this acts as a constraint on airport pricing behaviour. We also consider the footloose passengers argument in Chapter 3.

Similarly, it has been argued that airlines operating in liberalised markets such as Europe have also become 'footloose', that is both able and willing to switch away from airports if the price is not right. We examine the evidence on route switching in Chapter 4 and find that the 'footloose airlines' position rests on a misleading interpretation of the data. We judge that the primary drivers of the observed behaviour are increased competition and structural adjustment in the airline sector rather than the emergence of widespread competition between airports.

Although it may seem to be a technical point of little practical relevance whether outcomes are due to airline or airport competition, we show that has important implications for assessment of the need for economic regulation.

Finally, it is argued that the change in the ownership and governance structure of a number of European airports to become more commercial entities along with more active marketing of their services to airlines has also reduced the need for regulation. It is also claimed that entry of new airports, often former military or recreational airfields has spurred competition

While it is true that the governance of most European airports has been transformed over the last few decades and that in total, 80% of Europe's airports have been corporatized, it remains the case that 80% of airports in Europe continue to be largely or wholly public-owned. Moreover, the degree of airport entry has been overstated. In Chapter 6 we examine evidence of changes in charges and find that even at the height of the economic crisis many airports increased aeronautical charges.

³ An airport's catchment area is the area or population from which the airport can be expected to generate the majority of its traffic. Catchment areas are generally measured in terms of a given distance or travel time from the airport.

04 | Passenger behaviour – Competition between neighbouring airports

This Chapter examines passenger behaviour with regard to airports choice. We consider whether there is evidence of increased choice which might be indicative of airports being subjected to competitive pressure by neighbouring airports. We discuss a range of approaches and find that there is clear evidence that passengers prefer to use their local airport, giving market power to the airports.

A common method for mapping geographical overlaps between airport catchment areas is to generate isochrones maps. Isochrones map the area that is within a fixed distance or travel time from an airport. Based on this approach, it has been claimed that over 60% of the European population can access at least two airports within two hours' drive time.

Figure 1 below gives an example of 120-minute isochrones for a number of airports in the United Kingdom. The clear implication is that the overlapping isochrones are evidence of effective competition between airports.

While isochrones are a simple and powerful visual tool, they are of limited use in understanding the choices that passengers actually make.

Isochrones simply draw a 'frontier', with all points within that frontier treated equally, implying that a passenger who lives 2 hours from an airport is assumed to be as likely to use that airport as another passenger who lives just 15 minutes from the airport perimeter. Or conversely, that a passenger who lives 15 minutes from the airport is as likely to switch to another airport as one who lives 2 hours travel time away. Passenger behaviour is clearly more complex than this.

The proximity of an alternative airport can only represent a relevant choice if it offers a substitutable service, for instance a comparable itinerary. Isochrone maps do not reflect the availability of services at comparator airports and therefore overstate the extent of effective competition.

Figure 1: Chains of geographical overlap with 120-minute isochrones, selected UK airports

Source: UK CAA



In order to address some of these issues, the economic consultancy Frontier Economics carried out an empirical assessment to investigate:

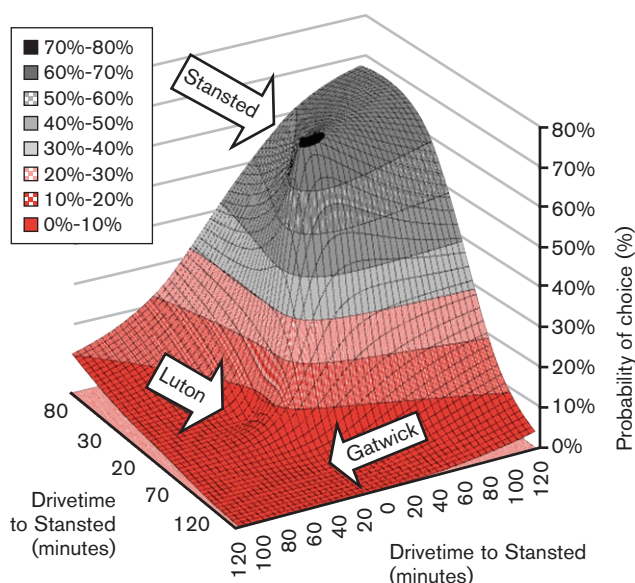
- how likely passengers are to choose A over B; and
- the role that relative prices play in influencing that decision.

Frontier built a sophisticated empirical model, using real booking data including passengers' post codes. They found that passengers' preference for travelling from their local airport is very strong. They found that for every 1% increase in distance the likelihood of them flying from that airport declines on average by 4%. In terms of price the research found that, on average, for every 1% increase in distance, a 1% change in relative prices would be needed to persuade passengers to travel to the more distant airport.

Figure 2 below demonstrates the Frontier approach applied to the likelihood of passengers using Stansted as opposed to the alternative London airports of Gatwick or Luton, for a range of popular destinations. This more sophisticated analysis shows quite clearly that as drive time to the alternative airport approaches 120-minutes the probability of passengers using these airports falls close to zero. In contrast, isochrones would present these airports as equally valid competitors to Stansted.

Figure 2: Probability of using alternative airports based on travel time

Source: Frontier Economics



⁴ Revealed preference models, such as the Frontier model, infer consumers' preferences based on patterns of observed behaviour. In contrast, stated preference data are generated by directly asking consumers about the reasons for their choices, as in the case of the CAA Passenger Survey.

A number of studies have examined airport choice in the San Francisco Bay Area as there are three sizeable airports in the region and data availability is good. Most recently, Hess and Polak⁵ applied a range of modeling approaches. Their analysis, in common with previous studies, showed that surface-access journey time is a key determinant of airport attractiveness, and consequently passenger choice, across all passenger groups and journey purposes. Moreover, they found that airline choice is 'nested' within airport choice; that is to say that passengers choose their departure airport first and then select the airline out of those that operate a given route from that airport.

In addition to modelling passenger behaviour, there are also assessment techniques that can be used to assess market power directly. One commonly used approach is the SSNIP⁶ test which is used to assess whether or not it would be profitable for an airport to increase its charges by a small but significant amount, say 10%. In a competitive market, an airport that raised prices in this way would be expected to lose a large amount of traffic and revenue. Therefore, where an airport would be able to increase profits in this way, this is seen as an indication that the airport possesses market power.

This approach has been applied in both the Netherlands and the UK in the context of market power assessments for the main airports in both countries. In both cases, the regulatory authorities found that the hypothetical increase in charges would be significantly profitable for the airports. The decrease in passenger volumes, resulting from passengers being discouraged from using the airports, would not be sufficient to counter the profitability of the charge increase. The authorities therefore concluded that both airports have significant market power. This evidence demonstrates that even in an operating environment where consumers may have several airports to choose to fly from, including as transfer passengers, airports can still maintain significant market power.

The analysis in this chapter has shown that passengers have a strong preference for using their local airport, even in cases where there may be neighbouring airports offering similar services.

We have also shown that isochrones are a simple and arbitrary metric and do not adequately capture passenger preferences or behaviour. Catchment areas vary depending on the specific circumstances of different areas and may be influenced by a range of factors. Indeed, catchment areas may even vary for different types of route offered from a given airport, for example for short- or long-haul routes, or for different types of passengers, such as business or leisure. Therefore, a much more sophisticated toolkit is required in order to understand airports' actual catchment area and the impact that this has on the extent of effective competition with neighbouring airports.

We therefore conclude that, despite the growing importance of non-aeronautical revenues, airports' incentive to drive throughput given the growing importance of non-aeronautical revenue is not sufficient to act as an effective constraint on exercising market power through the setting of aeronautical charges.

While airports across Europe may have become more commercially focused entities, including recognising the potential to earn non-aeronautical revenues, this has not changed the need for providing economic regulation. On the contrary, the move towards greater commercial focus may increase the need for economic regulation because commercial and private entities have more incentives to exploit market power and increase profits by increasing the prices they charge to their customers, rather than pursuing wider economic or social objectives such as regional development. Indeed, recent research⁷ into car rental concessions at airports has shown evidence of airport market power relating to non-aeronautical revenue.

⁵ Hess, S. and Polak, J.W. (2006), 'Airport, airline and access mode choice in the San Francisco Bay area', *Papers in Regional Science* 85(4): 543-67

⁶ Small but Significant Non-transitory Increase in Price

⁷ Czerny, A, 2013, 'Public vs Private airport behaviour when concession revenues exist', *Economics of Transportation*, 2:38-46

FOOTLOOSE PASSENGERS: UNDERSTANDING DESTINATION CHOICE

Passengers are now better informed and more empowered than ever, as the internet has made searching for travel and accommodation and comparing between options easier than ever. As a result, many travellers have access to greater choice and are willing and able to arrange their travel independently rather than relying on the services and support of a travel agent.

However, destination choice is not new. In the days before the internet, holidaymakers also had a range of destinations to choose from when planning their holidays. Since the dawn of the jet age and the emergence of a mass package holiday market, holiday makers have enjoyed convenient and cost-effective flights to a wide variety of holiday resorts.

In contrast to holiday-makers, the destination choices of business travelers and people travelling to visit friends and relatives (VFR) are largely fixed. For business travelers the destination is determined by the location of clients or the venue of a conference. Not only does this limit the ability of business passengers to choose between both origin and destination airports but, as we will see in the next section, it also constrains the ability of airlines to switch between airports.

Air passengers who are travelling to visit friends and relatives also have much more limited destination choices than holidaymakers. While some people may have a network of friends and family spanning different cities or countries, to visit any particular set of friends or relatives they are obviously restricted to the home city or airport.

Trips to visit friends or relatives (VFR) make up an important share of journeys. Recent data published by the UN World Tourism Organisations show that VFR trips account for to 27% of all inbound travel⁸. In the UK, VFR accounts for a greater share of international travel than business trips and grew rapidly between 2000 and 2010⁹. Even at the UK's major hub airport Heathrow VFR trips account for 35% of all journeys¹⁰.

Among the many social and cultural benefits of VFR travel, the ability to easily and affordably visit friends and loved ones also facilitates labour mobility, as job opportunities overseas can be much more attractive if people know that they will be able to continue to see their families and friends on a regular basis.

In its proposed final judgment on the merger between U.S. Airways and American Airlines¹¹, the US Department for Justice recognised that air travel is a derived demand and that passengers are not footloose: *"Passengers seek to depart from airports close to where they live and work, and arrive at airports close to their intended destinations. Most airline travel is related to business, family events, and vacations. Thus, 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"*.

⁸ UN World Tourism Highlights, 2013. The VFR category also includes religious pilgrimages and trips for health treatments. However, as with VFR travel the destination for these categories is also largely fixed.

⁹ UK Health Protection Agency, Global and UK Travel Trends, 2010.

¹⁰ UK CAA Passenger Survey, 2012

¹¹ United States of America et al. v US Airways Group Inc. and AMR Corporation: Proposed Final Judgement, filed 12 November 12 2013

05 | Footloose airlines: Understanding airline behaviour

This Chapter addresses the question of whether airlines have become more ‘footloose’ and willing to switch away from airports. Under the ‘footloose’ airlines argument, any airport that tried to raise airport charges above the market level would lose business as airlines and, by implication, their passengers switched to other routes and airports. If airlines were able to easily switch capacity between airports this could represent an effective constraint on airports’ ability to exercise market power through the setting of charges.

We argue that route switching is not costless. This is especially true for network carriers but also for pan-regional point-to-point airlines. We also show that, in most markets, the extent of route switching is limited to that which would be expected as part of a normal process of network optimisation in a highly competitive industry.

Airline switching can take a number of forms, but generally any way in which an airline can reduce its use of an airport can be considered as switching.

- On routes where the origin or destination (or both ends of the route) are served by more than one airport, an airline may reduce the frequency of flights at one airport and increase it at another, or it may switch the route entirely from one airport to another – this is perhaps closest to the case envisaged by the discussion of catchment areas;
- However, airlines may also switch between airports in different cities or regions, for example taking capacity out of Spain and moving it, for example, to Belgium or the Netherlands. It is this type of switching that is argued to be the behaviour of ‘footloose airlines’;
- Finally, airlines can vary the size of aircraft on a route and/or switch future growth plans from one airport to another. This form of switching may be less drastic and is certainly less obvious, but may be considered to have an impact on airport behaviour.

Airlines’ ability to switch between airports will depend on two factors: the costs involved in switching and the existence of appropriate alternative airports.

THE AIRLINE COMMERCIAL CHALLENGE – SUSTAINABLE PROFITABILITY

The airline sector is a highly competitive industry, with airlines subject to multiple sources of competitive pressure such as competition between airlines, the threat of entry and bargaining power of key suppliers, including airports. Liberalisation, deregulation and technological improvements have driven down unit costs, and effective competition has ensured that these gains have been passed on to consumers in the form of lower fares. In many ways, the airline industry could be seen as a ‘poster-child’ for the consumer benefits of competition.

With such strong competitive forces, profitability is a huge challenge in the airline sector and research commissioned for IATA has demonstrated that airlines generate the lowest return to investors in the aviation value chain¹².

As with airports, airlines are highly capital-intensive businesses and aircraft are very expensive assets. Airlines need to deploy their fleets on routes that maximise revenue earning potential. Airlines therefore face very strong incentives to optimise their route networks in terms of ability to generate yield. This may translate into variations of how capacity is deployed, for example in response to demand changes or economic conditions. However, it also means that in markets where airlines are able to generate significant business, they are likely to stay.

In the following section we discuss the various types of switching cost that an airline would face if it decided to switch capacity away from an airport. But perhaps the biggest cost, is the opportunity cost in terms of revenue. An airline will only switch capacity if it believes that it is profitable to do so. In other words, an airline will only switch capacity to an alternative airport if it believes that the increased revenues from moving will outweigh the costs involved in doing so.

SWITCHING COSTS

Switching costs are any costs involved in switching all or part of a customer’s demand from one supplier to another that would not be incurred by remaining with the current supplier. For airlines, these would include both the costs involved in the physical switch of airport, such as relocating equipment or staff, as well as the costs involved in marketing a new route or an increase in capacity on an existing route.

Airlines may experience switching costs due to:

- relocation of assets at a new airport, including sunk investments such as airline specific terminal facilities (check-in desks, airport lounges etc.) and maintenance facilities;
- staff costs including relocation, recruitment or redundancy;
- breaking long-term commitments;
- loss of economies of scale, for example if splitting operations across more than one airport.

Airlines starting a new route will also need to incur significant marketing costs in promoting the routes to potential passengers in that catchment area and to generate awareness. Airports often offer marketing support for new routes and so these costs may be at least partially covered by the new airport.

¹² IATA Economics Briefing No 10, Profitability and the air transport value chain, IATA, June 2013

REVENUE EFFECTS RELATED TO AIRPORT SWITCHING

In most sectors, switching costs entail a firm moving some or all of its business between competing suppliers of a substitutable product, where all suppliers produce a similar, or even identical, product. However, in an airports context, switching may involve moving routes between airports that are poor substitutes in terms of the local market or catchment area that they serve.

For an airline to switch airports, it must be commercially viable to do so. The ability to generate profitable levels of revenue at alternative airports may represent the most significant barrier to switching.

Airlines may also expect to obtain lower yields when routes are launched as passenger familiarisation develops. While these effects are transitory, the start-up period may last for a considerable period of time, potentially as long as 2 or 3 years.

Moreover, there may also be a more permanent loss of yield due to switching to a less attractive location. For airlines operating at hub airports, network effects may also arise. Any airline switching away from the hub will lose access loss to the pool of potential transfer passengers.

For airlines with a hub or base at a given airport, the revenue hurdle to switching will be even higher. Airlines need to maximise the number of daily flights they operate in order to deploy their fleets efficiently. This involves operating sufficient viable routes from a new base in order to break-even. While airlines can choose to operate some routes that do not have the base as their origin or destination¹³ this involves additional cost and complexity to the operation, as well as impairing airlines' ability to respond to disruption or technical issues.

Both switching costs and revenue effects are likely to limit the extent to which airlines can be considered to be 'footloose'. Moreover, these costs affect all airlines to a greater or lesser extent, regardless of business model. While there are instances of airlines redeploying capacity very rapidly in order to take advantage of specific market opportunities, such as the Budapest example discussed below, airline network planning more normally takes place over a much longer time horizon, which can be up to 2 years in the case of new long-haul routes.

¹³ An example would be an aircraft based in Geneva (GVA) being used to operate a route between Nice (NCE) and Barcelona (BCN). In the case the daily pattern would be: Flight 1 GVA – NCE; Flight 2 NCE – BCN; Flight 3 BCN – NCE; Flight 4 NCE – GVA.



06 | Evidence of Route Churn

In this Chapter we examine data on route 'churn' or 'switching' and consider the drivers of the observed trends, in particular whether they are driven primarily by changes in the airline or airport sectors.

Route switching is attributable to a wide range of factors including underlying economic conditions, route profitability and broader network, or even alliance, strategy. As such it is part of a normal process of network optimization as airlines struggle to generate profitable traffic in an increasingly competitive environment.

The presence of route churn is not in itself an indication of the level of competition between airports or the extent to which their market power is curtailed. Indeed, we show that in almost all instances route switching reflects the high level of competition within the liberalised airline sector.

Between 2002 and 2011, 54% of route closures involved routes that had been operated for less than 2 years. In many cases, such route churn is driven by large incentives offered by the airports in the first place.

Discriminatory incentives, offered to individual airlines to operate to and from a given airport, distort the market and will tend to exacerbate network volatility at these airports while failing to mask the underlying lack of sustainable demand.

The data we examine show that there is no increasing trend in recent years and that it is not a major consideration for Europe's top airports. While the schedule data support the assertion of an absolute increase in the openings and closures of routes, this is in the context of a market that was growing overall with 54% more routes and 41% more seat capacity in 2011 compared with 2002. When route openings and closures are compared in relative terms, as a share of total routes operated, no increasing trend can be observed.

Figure 4 shows clearly that significantly more routes are opened than closed per year, with this pattern holding in all years with the exception of 2009 as the global economic recession affected European demand.

Indeed, even in 2010 and 2011 as the economic crisis deepened, route openings outpaced closures.

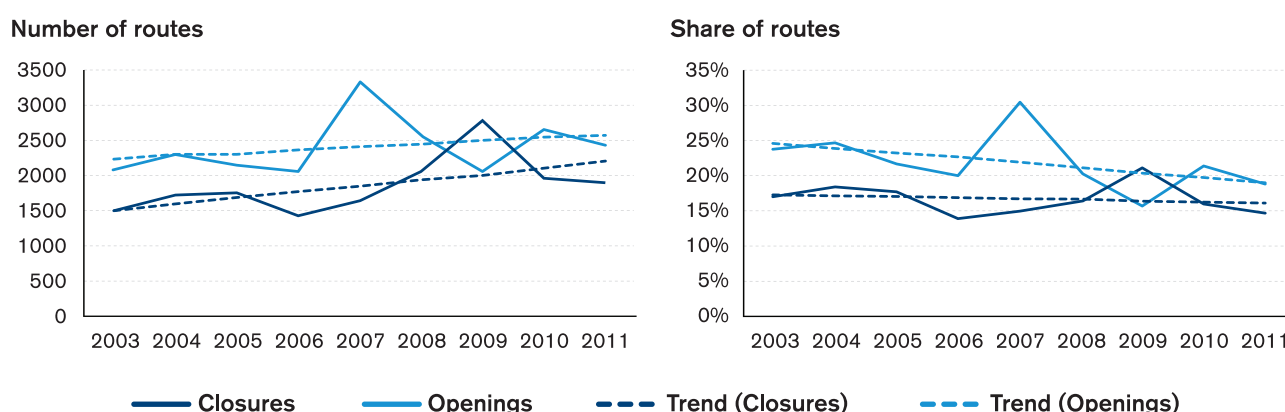
These observations are corroborated by our own analysis of schedule data during the same period which finds that for intra-EU flights, the average share of new routes operated was 17.5%, ranging from 12.5% in 2011 through to a high of 23.4% in 2007 immediately before the economic downturn in Europe. The average for routes closed was 12.5%, ranging from 7.8% in 2007 and 14.8% in 2009 as recession started to bite hard. Figures for extra-EU flights during this period were of comparable scale.

In addition, we note that only 20-25% of route switching is by European network carriers, despite these airlines accounting for 59% of intra-EU traffic¹⁴. 75-80% of route switching is by 'point-to-point' carriers, comprising low-cost carriers and full-service carriers that do not conduct significant connecting operations.

Similarly, the extent of churn is significantly smaller at larger airports – new routes in 2011 accounted for 8% of total intra-EU routes at airports with more than 25 million passengers, compared with 20% at airports with 5 million passengers or less¹⁵.

This European evidence supports the idea that there is significant switching on start-up routes and at smaller airports, whereas switching is much less widespread at larger airports and on established routes. While this suggests that these smaller airports may have limited ability to exercise market power it is also the case that these airports are much less likely to be subject to tight economic regulation.

Figure 4: Number and share of intra-European routes opened and closed, 2002-2012



Note: The figures show the total number and share of intra-European scheduled routes that were opened and closed in 2002-2012. The trends are the linear trends across the period. Source: Prepared for ACI by Copenhagen Economics and SEO Economic Research based on OAG data

¹⁴ Copenhagen Economics, Airport Competition in Europe, p33-39.

¹⁵ Op. cit., p46

AIRLINE EXIT

An airline exiting a market entirely or ceasing operations, this represents a special case of route switching. Such market adjustment is likely to have a significant negative and short-term impact on both network scope and throughput at affected airports. However, this may not be the case over the medium- and long-term.

As we set out in section 3, airlines face strong incentives to allocate capacity in such a way as to maximise revenue and profits. Airlines are much less likely to withdraw capacity in geographic markets where they are able to operate profitably.

Similarly, where market exit is driven by a lack of competitiveness of the exiting airline, it is likely that other airlines will enter the market in a rapid timeframe and that throughput will recover to, or even exceed, the pre-adjustment levels. On 65% of routes operated by more than one carrier, within 3 years of the exit of one airline from the route, capacity was at or greater than 80% of the pre-closure level and in 40% of cases capacity was greater than it was before the airline exit¹⁶.

Two case studies illustrate this pattern in more detail. In early 2012, both Malev (based at Budapest Ferihegy airport) and Spanair (with its major hub at Barcelona El Prat airport) ceased operations. Tracking the impact that these airline failures had on passenger numbers is instructive in understanding the nature of route churn.

In contrast to the examples above, where airline exit from an airport market is driven by a fundamental lack of sustainable demand at a given airport, then the drop in throughput will be more durable. By way of illustration, the ACI report finds that more than 70% of routes where the exiting carrier was the sole operator continue to be unserved even after 3 years.

In this chapter we have demonstrated that it is airline, not airport, competition that is the major driver of route openings and closures.

The evidence shows that in markets where demand is sufficient to enable services to operate on a sustainable financial basis, route 'churn' is much lower than average. Moreover, where route closures in such markets are driven by airline downsizing or failure, other airlines are quick to backfill these routes.

We therefore conclude that, while the footloose airlines argument may have some limited applicability, for example, for smaller and secondary airports where point to point carriers account for a large share of traffic, it is not relevant to large airports serving major cities and conurbations. The threat of airline switching does not act as an effective constraint on airport pricing at these airports.

CASE STUDY 1: BUDAPEST

In January 2012, the month immediately prior to its exit from the market, Malev accounted for 46% of flights and 42% of seats from Budapest airport although only 23% of passengers. Following Malev's failure on 3 February 2012, it is unsurprising that both flights and seats available decreased by almost exactly these amounts in February 2012. However, it is perhaps telling that passenger numbers only fell by 15%.

It is well documented that a number of airlines, in particular Ryanair and Wizzair, were quick to fill the available routes, including many on which Malev had been the sole operator, such that by January 2012, passenger numbers were in fact nearly 20% higher than they had been a year earlier.

CASE STUDY 2: BARCELONA

In Barcelona, a similar pattern was observed following the failure of Spanair in January 2012. In December 2011, Spanair's last full month of operations, the airline was the fourth largest operator at El Prat airport accounting for 11% of flights and 12% of seats. The market at Barcelona airport was therefore already more contested than in Budapest.

However, as in Budapest, other airlines, in particular Vueling, responded to Spanair's exit by increasing capacity. Accordingly, overall passenger throughput at El Prat increased 2.2% in 2012 compared with 2011 despite the loss of a major carrier so early in the year.

¹⁶ Op. cit., p 48



07 | Towards a case-by-case approach

In this briefing note, we have shown that competitive pressures do not apply equally across all airports. Apparent signs of competition, based on analysis of isochrone maps or patterns of route switching, are often not borne out by reality. Both catchment area analysis and examination of route openings and closures should be based on detailed assessment, using sophisticated approaches where available, rather than on simple one-size-fit-all techniques.

AIRPORT CHARGES

In particular, the preceding chapters have indicated that there can be significant differences in the extent of competitive pressures between large and small airports. This is highly relevant to a discussion of airport competition, as the latter categories of airports are often not subject to economic regulation. A recent paper by Bel and Fageda¹⁷ which examined economic regulation at a sample of 100 European airports found that less than one quarter are subject to detailed economic regulation. In some countries, notably France and Germany, the form of economic regulation applied to most airports is more basic than at the principal airports. In the UK, Ireland and Sweden, economic regulation is limited to the biggest airports with others unregulated.

In this chapter we extend this analysis by assessing trends in both airport entry and charges, and also consider the case of different airports within multi-airport systems.

AIRPORT ENTRY

The entry, or even the threat of entry, of new airports into a market might be expected to have some effect in constraining the pricing behaviour of incumbent airports. We therefore consider trends in airport entry to test to what extent this might be borne out in practice.

A recent study of airport entry and exit in Europe¹⁸ found that during the period 1995-2005 only 22 airports entered the market. The study concluded that entry and exit in the airport industry is not so much driven by the profit nexus, but rather by the desire of public airports to increase economic activity for their region, with most of the new entries serving only one airline, generally a low-cost carrier.

It was also found that entry seems to be especially difficult in regions with excess demand and that entry at such locations, which could have the potential to exert some competitive pressure on the major existing airports, has not occurred. This provides further evidence that entry and exit forces are not sufficient in curbing market power of major European airports.

The increase in the number of airports that are subject to slot coordination is further evidence of a capacity crunch at major airports. Constrained, congested and slot-coordinated airports pose big barriers to entry and further limit the potential for competition.

This finding is highly relevant given expected demand growth and the European Commission's forecast that 20 major European airports will be operating at full capacity throughout the operational day by 2030.

Evidence of airports lowering charges may also suggest that airports' pricing power is constrained by competitive pressure. However, **Figure 5** below shows that while half of airports did indeed lower their charges in 2009, only 17% of airports lowered their charges in 2010.

In contrast, **Figure 5** also shows that 31% of airports increased their charges in 2009 and 36% did so in 2010 even as the Eurozone crisis was hitting passenger demand and forcing airlines to tighten their belts. The 2012 Leigh Fisher review of airport charges indicates¹⁹ that 21 of the 24 largest European airports increased their charges in 2010 and in 2011, 23 out of 24 put their charges up.

This evidence suggests that while some smaller airports may have been forced to reduce their charges in response to falling demand as a result of the economic downturn, the data do not support the claim that primary airports are subject to such constraints on their pricing behaviour.

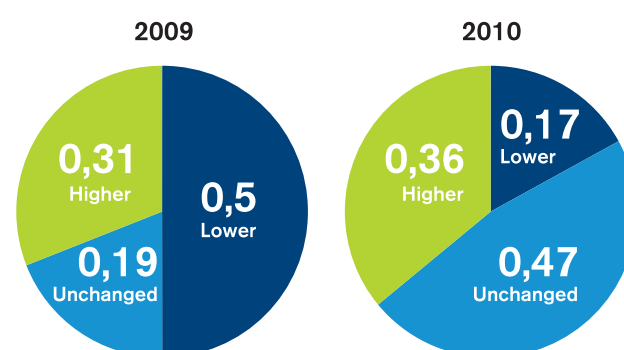
Furthermore, even in cases where there may be evidence of a levelling or reduction in charges this may be explained by profit maximizing behaviour during an economic contraction caused by a decline in the market's ability to pay, rather than indicative of competitive pressures constraining pricing power.

The data presented in **Figure 5** and the findings of the Leigh Fisher report are also relevant to addressing the question of whether airlines at some airports are able to exercise buyer market power in order to constrain airport pricing. This argument claims that where an airline has a 'dominant' presence at an airport, the airport is so dependent on the custom of the airline that this limits the airports' ability to raise prices.

The evidence from the top 24 major European airports, including the home hubs of Europe's major network carriers, many of whom account for over 50% of traffic at their hubs, clearly show that buyers at these airports do not have the power to effectively constrain airport pricing.

Figure 5: Changes in charges at European airports, 2009 and 2010

Source: ACI Europe, Economics report, 2010 and 2011



¹⁷ Bel and Fageda X, 2010, "Does privatization spur regulation? Evidence from the regulatory reform of European airports". IREA Working Papers

¹⁸ Mueller-Rostin, C. et al, 2010, 'Airport Entry and Exit: A European Analysis', in Airport Competition: The European Experience edited by P. Forsyth et al., Ashgate

¹⁹ Leigh Fisher, 2013, Airport Performance Indicators 2012

MULTI-AIRPORT SYSTEMS

An extension of the analysis of primary and secondary airports is to consider airports within a multi-airport system i.e. a metropolitan area served by more than one airport, is to assess the relative 'attractiveness' of these airports.

The previous chapter showed that route 'volatility', that is the extent to which the route network served from a given airport changes from period to period, and throughput 'volatility' both tend to be greater at smaller airports (generally equating to the secondary or tertiary airports within an airport system).

An alternative way of measuring the relative 'attractiveness' of different airports within a multi-airport system is to capture passengers willingness to pay to travel from different airports and to use the airlines serving those airports.

Figure 7 below compares average fare (in U.S. dollars) and yield (in U.S. dollars per passenger km) on two intra-European routes from London. The two routes have been chosen as they are both served from all five principal airports in London.

Figure 7: Average Fare and Yield on LON-AMS and LON-GVA, 2012

Source: PaxIS. Average fare expressed in USD. Average yield expressed in USD/pkm

	AMS		GVA	
	Fare	Yield	Fare	Yield
LHR	136	0.37	187	0.25
LGW	81	0.22	77	0.11
STN	53	0.17	67	0.09
LTN	54	0.15	70	0.09
LCY	131	0.38	194	0.26

While care should be taken not to place too much reliance on these two examples, as the findings may be affected by differences in fare structures across airlines, they do suggest that, even on short-haul routes with a relatively standardised product, passengers' willingness to pay is significantly higher at Heathrow than at Gatwick. Similarly, airlines operating at Gatwick are able to charge higher fares than at Stansted or Luton. London City, which is much smaller than the other airports, serves a niche market given its proximity to the financial district in London.

We have shown that it is not possible to make generalisations about the extent to which airports are subject to effective competition. While many smaller airports may have a limited ability to exert market power over airlines and passengers, these airports are not generally subject to economic regulation. In contrast, major airports continue to have significant market power as evidenced by continued increases in charges, even in the face of a severe economic downturn.

Moreover, even classifications such as primary and secondary airports are themselves simplistic. Some smaller airports, for example downtown airports like London City, may serve particular niche markets and therefore have market power over the airlines and their passengers that operate in these niches.



08 | Policy Implications

In this paper we have presented overwhelming evidence that, particularly for larger airports serving major cities or conurbations, competitive forces are not strong enough to act as an effective constraint on airport pricing. Many airports continue to enjoy significant market power and, as we have seen, exercise this market power by increasing their prices, even during the most challenging economic conditions.

Increased airport charges mean higher air fares for consumers, raising the cost of family holidays, business meetings for firms to meet new clients and the retail price of goods that are shipped by air.

Policy makers and regulators should therefore exercise care and rigour in assessing the level of effective competition within the airport sector.

DISTINGUISH BETWEEN AIRPORT AND AIRLINE COMPETITION

Air fares have more than halved in real terms since 1970. Increased competition, driven by liberalisation and deregulation, has been a key driver of this trend which has delivered such benefits for consumers, making air travel more affordable and accessible.

As Governments in many countries move to corporatise or even privatise the airport sector, the real cost of air travel has continued to fall. However, policy makers and regulators should be careful not to interpret this as evidence of effective competition between airports or of airlines imposing constraints on airports' ability to exercise market power.

We have shown that such arguments do not stand up to close scrutiny. In the majority of cases, market changes have been driven by, and result from, the intensity of competition in the airline sector rather than from competition between airports themselves. Indeed, while air fares have continued to fall, we have shown that charges at many airports keep on increasing.

Given airlines' challenge in achieving sustainable profitability, airlines face strong incentives not to switch away from airports where they are able to generate satisfactory levels of load and yield or maintain competition with other airlines.

Moreover, airlines face significant switching costs in reallocating capacity between airports. The result is that in most markets airport competition remains limited at best and most airports retain a degree of market power, at least at the local level.

Where airports continue to enjoy significant market power and generate monopoly profits by imposing excessive airport charges on airlines, consumers will suffer. Even though the airlines operating at that airport may be highly competitive and compete effectively between them, air fares will still be higher than they need be. For this reason, it is therefore important to distinguish between the extent of airline and airport competition.

APPLY AN APPROPRIATE ANALYTICAL TOOLKIT

The discussion of catchment areas illustrated that isochrone maps, though simple and visually effective, are an arbitrary metric and do not adequately capture passenger preferences or behaviour. Airport catchment areas vary depending on the specific circumstances of different areas and regions in a way that is not captured by isochrones. Importantly, it is likely that isochrone maps will overstate the competitive pressure exerted by passengers' willingness or ability to switch airports.

Similarly, the extent to which airlines can be considered 'footloose' will depend on the level of switching costs and revenue effects. Once again, switching costs and revenue effects will be determined by multiple factors that will not be captured by one-size-fits-all generalisations. The footloose airlines argument may not give an accurate picture of airlines' ability to constrain airports' ability to set prices above the competitive level.

ASSESS COMPETITION ON A CASE-BY-CASE BASIS

It is also clear from the evidence presented in this paper that the competitive environment is not the same for all airports. While some airports are subject to some degree of competition from neighbouring airports, there is no evidence that this competition is sufficient to prevent many, especially large hub airports, from abusing market power through excessive airport charges or poor service.

This paper has shown that almost of all of Europe's major airports continued to raise their charges significantly throughout the Eurozone crisis. We acknowledge that many other airports in Europe did cut their charges as the economic downturn took hold. While this may suggest that airport market power is more limited at smaller, secondary and tertiary airports, we have shown that these airports are either deregulated or subject to more basic forms of economic regulation.

Regulators need to be careful not to rely on airport competition delivering a good outcome for passengers and other airport users in terms of price and service quality. Effective and proportionate economic regulation is required in order to ensure a fair deal for consumers.







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