ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

LEVERAGING AIRPORT INVESTMENT TO DRIVE THE EU's AVIATION STRATEGY

A DECADE OF DELIVERY FOR THE TOP 21 AIRPORTS IN EUROPE

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The top 21 EU & EFTA airports have a track record of delivering substantial value to consumers over the past decade, in line with the priorities of the Aviation Strategy - and contrary to the claims of A4E.

With European airports now being businesses in their own right, sufficient levels of investment and charges are essential prerequisites, if they are to continue to deliver increased capacity, quality & connectivity.

Market-based regulation & a commercial airline-airport dynamic will deliver more cost-effective investment, with a smaller & smoother impact on the profile of airport charges – and all to the benefit of consumers.

FOREWORD

EARLIER THIS YEAR, THE ISSUE OF AIRPORT CHARGES WAS ONCE AGAIN PUT ON THE AGENDA. The catalyst this time was an airline-commissioned report, which claimed that charges at the 21 largest EU & EFTA airports had increased by an astonishing 80% over the past decade[1]. The minute this report was released, we started to receive calls from many of the targeted airports. They were all concerned, as they simply could not reconcile the figures presented in this report with their actual finances.

Our initial instinct was, of course, to respond and to vigorously contest the numbers. But it soon became clear that a deeper and more reflective response was required. While these new airline claims needed to be corrected, we were indeed keen not to issue yet another narrow rebuttal - but rather to provide a wider and comprehensive perspective, to help move forward the long standing debate on airport charges.

We felt this was especially important as the European Commission had recently set a coherent Aviation Strategy based on a long-term vision for the air transport sector, and with a primary focus on improved connectivity and enhanced competitiveness. Indeed, the Aviation Strategy means that when we discuss aviation policy matters, we now have a common set of objectives to target. In particular, the Aviation Strategy makes clear that:

> *"The availability of highly performing, competitive airport services, including runways, passenger terminals and ground handling, is critical for the competitiveness of the EU aviation sector and the service quality experience of passengers."*

Hence, it is no longer sufficient for aviation industry stakeholders to argue amongst ourselves about specific policy issues in isolation – airport charges included. Each stakeholder has a responsibility to work within the parameters set by the Aviation Strategy, and to reflect upon how best to realise its key objectives. It is essential that the impact of each individual policy issue is measured against the Aviation Strategy.

Given this, we at ACI EUROPE decided to take a longer and deeper look into the track record of the 21 airports identified in the airlines' report. This led us to focus not only on airport charges, but also to undertake an analysis of these airports' investments, capacity and service quality developments as well as resulting connectivity levels. By doing this, we were able to get a full picture of their actual contribution over the past decade to the objectives now set by the Aviation Strategy.

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[1] 'Analysis of Airport Charges - Airlines 4 Europe', Aviation Economics, January 2016

Interestingly, it soon became apparent that adequate investment in airport facilities will be one of the key enablers of the European Commission's ambitions. Crucially, airport investment is also the lynchpin which connects the contentious issue of airport charges with the essential delivery of airport capacity, quality & connectivity. This exposes the danger of the fallacy that the economic regulation of airports is supposed to be about reducing airport charges as much as possible – as there will invariably be wider negative repercussions for capacity, quality & connectivity when such a biased approach is taken.

Going deeper, we could not find evidence to support the airlines' arguments that more elaborate and intrusive regulation is required to prevent high increases in airport charges. In fact, if anything, the opposite is the case. It is quite remarkable that those airports that experienced the highest increases in airport charges are precisely those that have been subject to the most intensive regulatory control - well beyond the requirements of the EU Directive currently in force.

Conversely, it is at those airports where the Directive has been applied in a more proportionate way where airport charges remained stable or even decreased.

Ultimately, there must be a balance between adequate airport investment and reasonable airport charges. Our analysis shows that tighter economic regulation of airports is not the optimal way of delivering such a balance, and actually carries risks for the success of the EU Aviation Strategy.

We need to find a better way.

To do this, we must better reflect and anticipate market dynamics – in particular the fact that airport competition has been increasing both in terms of scope and intensity. This implies moving towards less economic regulation, based on **airport market power tests.** Regulators should accordingly intervene **only when necessary purely on competition grounds** – and even then any intervention should be **proportionate to the problems identified**. This would incentivise airports and airlines to engage in **more commercial interactions** - allowing them to work out the best solutions to the challenges that ultimately, they ought to face together.

I hope that our analysis is of interest, and that it makes a constructive contribution to the continued evolution of the European aviation sector.

Olivier Jankovec
Director General, ACI EUROPE
May 2016, Brussels

EXECUTIVE SUMMARY & KEY FIGURES

The top 21 EU & EFTA airports have a track record of delivering substantial value to consumers over the past decade, in line with the priorities of the Aviation Strategy - and contrary to A4E claims.

- Between 2005 and 2015 the top 21 airports in Europe have delivered a boost in airport capacity of at least **177.4 million passengers per annum (mppa) – the equivalent of adding London-Heathrow, Paris-Charles de Gaulle and Paris-Orly to the European aviation network.** These 21 airports welcomed an additional 168.5 million passengers in 2015, compared to 2005 – clearly demonstrating that the expansion in airport capacity almost perfectly matched the increase in demand for airport facilities across the period.

- **Passengers have reported a +12.4%** increase in their overall satisfaction with these airports across the period – equal and greater increases in passenger satisfaction have been recorded in a wide range of areas, as diverse as **waiting time at security, courtesy & helpfulness of airport staff,** the quality of **restaurants & eating facilities**, and more.

- Such improvements in capacity & quality at the top 21 EU & EFTA airports allowed direct connectivity to increase by **+10.7%** and total airport connectivity (made up of direct and indirect connectivity) by **+51.6%**.

- These deliverables were underpinned by an investment of over **€53 billion** back into facilities by these airports - more than the total volume of investment expected to be triggered by the EU 'Investment Plan for Europe' across all sectors of the EU economy in its first year of operation, and **11 times** greater than the total amount of EU funding provided to airports between 2000 and 2013

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- These investments did come at a cost. Average charges at these airports increased by **+25.4%** during 2005-2014 – an increase of **less than €3 per passenger** over 10 years. ICAO figures show that airport charges paid by airlines in Europe have actually decreased as a percentage of their cost base, down to just **5.1%** of airline operating costs in 2013.

These figures are at odds with A4E's assertion that charges at these same airports have increased by 80% between 2005 and 2015. A4E also claimed that air fares have decreased by -20% over the past decade, yet Eurostat records a **+29%** increase in the price of air passenger travel over this time.

With European airports now being businesses in their own right, sufficient levels of investment and charges are essential prerequisites, if they are to continue to deliver increased capacity, quality & connectivity.

- Today about half of EU airports are privately operated. And even for those airports that remain in public hands, EU State Aid rules restrict public funding due to competition concerns. Unlike in other parts of the world, airports in Europe need to be commercially self-sustaining to secure private finance. Investment back into facilities is therefore impossible, if users do not pay for the underlying costs of operating & expanding these facilities.

- The track record of the largest 21 EU & EFTA airports demonstrates this. Those airports that increased charges also invested almost twice as much back into infrastructure **(€30.7 bn)** than those that did not. They subsequently delivered circa twice as much additional capacity **(117.9 mppa)** and increased service quality **(+15%)** at a rate twice that of those airports that reduced or kept stable their charges.

- These same airports that increased charges, were also much cheaper than their peers back in 2005 **(-17%** below the industry average –vs.- **+22%** above) – reflecting the **competitive dynamic** amongst airports to provide the optimal balance between charges, quality & infrastructure.

- Airport investment delivers **significant wider economic benefits**. The air connectivity which it facilitates drives foreign direct investment, tourism & international trade, which in turn translates into more economic activity and employment. Airport investment also contributes to lower air fares for passengers, as increased capacity is a key factor for more effective inter-airline competition.

Market-based regulation & a commercial airline-airport dynamic will deliver more cost-effective investment, with a smaller & smoother impact on the profile of airport charges – and all to the benefit of consumers.

- There is no form of regulation which can magic away the need for airport investment, nor the fundamental costs of these investments. However, amongst the top 21 EU & EFTA airports, if is a fact that the highest increases in charges over the past decade took place at those airports subjected to tightest regulatory frameworks.

- In contrast, stable and reduced charges occurred at those airports where there is a more **commercially-based and less regulatory-driven dynamic** between the airport and airlines. The UK CAA is currently working to facilitate commercial interactions between airport and airlines – the objective is to deliver large investment projects in a more cost-efficient manner, **with smaller & smoother impacts on the profile of airport charges.**

- This undermines A4E's call for tighter regulation. This call was made on the basis of a claimed 80% increase in airport charges. Not only did this claimed increase not actually occur – but in fact the highest actual increases in charges occurred precisely at those airports which were themselves subject to the tightest regulatory control. A4E's proposed policy, if enacted, would therefore be self-defeating.


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ZÜRICH AIRPORT

INTRODUCTION

The airline report which triggered the present analysis focused on changes in airport charges at the largest 21 airports in the EU & EFTA over the past decade. This report led ACI EUROPE to undertake an in-depth analysis not just of these airports' revenues from charges, but also of their capital expenditure, their capacity improvements, the satisfaction of their passengers and their connectivity. Such analysis is based on data collected from these airports and other sources (see Annex 2, for more details on our methodological approach).

This extensive data collection & analysis has allowed us to:

1. **Quantify and understand the overall record of value delivery to consumers at these airports over the last decade, in the context of the priorities identified by the European Commission in its recently adopted Aviation Strategy.**

2. **To shed light more specifically on the importance of airport investment, and the role of airport charges in enabling this investment.**

3. **To offer guidance on the necessary evolution of the current regulatory framework, in a way which safeguards the priorities of the Aviation Strategy.**

SCOPE OF ANALYSIS

21 Largest EU & EFTA Airports

LHR	London Heathrow
CDG	Paris Charles de Gaulle
FRA	Frankfurt
AMS	Amsterdam
MAD	Madrid
MUC	Munich
FCO	Rome Fumicino
LGW	London Gatwick
BCN	Barcelona
ORY	Paris Orly
CPH	Copenhagen
ZRH	Zurich
OSL	Oslo
PMI	Palma de Mallorca
VIE	Vienna
ARN	Stockholm Arlanda
MAN	Manchester
BRU	Brussels
DUS	Dusseldorf
DUB	Dublin
TXL	Berlin Tegel

1

A DECADE OF VALUE DELIVERY AT THE TOP 21 EUROPEAN AIRPORTS

The cost-effective delivery of significant improvements in both the capacity and quality of Europe's airports over the past 10 years is in line with the objectives set out in the European Commission's Aviation Strategy.

These quantifiable achievements were underpinned by healthy levels of investment by airport operators back into infrastructure and they were delivered with a moderate increase in charges which did not adversely impact airline finances.

1.1 INCREASED CAPACITY & CONNECTIVITY

These investments were used to create airport capacity for at least[2] an additional **177.4 million** passengers per annum. To put this in context, this is the equivalent of adding an additional Heathrow, Charles de Gaulle and Orly airports, to the European aviation network. This additional capacity was added at large, often-congested airports, in densely-populated economic centres with strong demand for air services. In addition, the new capacity almost perfectly matched increased demand - the 21 airports welcomed an additional 168.5 million passengers in 2015 compared to 2005.

This additional capacity allowed these airports to increase their total air connectivity by **+51.6%**, and their direct connectivity alone by **+10.7%**[3]. There is a strong positive link between air connectivity and wider economic activity such as trade, tourism and investment.

1.2 IMPROVED SERVICE QUALITY

These investments also benefited passengers more immediately. Passenger satisfaction at participating airports - as reported by passengers via ACI's Airport Service Quality programme (ASQ) - increased significantly in a wide range of metrics between 2006-2015[4]. Passengers reported a weighted average 'Overall Satisfaction' score with these airports that was **+12.4%** higher at the end of the period, compared to the start.

Annex 3 contains a list of ASQ metrics, and shows % increase in average scores in each, between 2006 and 2015.

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[2] Not all airports provided data as to the additional capacity delivered during this period

[3] *'ACI EUROPE Airport Connectivity Report 2015'* ACI EUROPE – available at: https://www.aci-europe.org/component/downloads/downloads/4333.html

[4] The years for which the survey methodology was consistent, and therefore for which the data is comparable. All 21 airports participated in the ASQ Programme, encompassing over 250,000 passenger surveys across the period. Of these 15 airports participated specifically in both 2006 & 2015.
ASQ research is in place in airports that serve more than half the world's 6.6 billion annual passengers. The survey takes place at the departure gate whilst the passenger is travelling through the airport and whilst the travel experience is fresh in the passengers mind. Participating airports are advised prior, the best way to implement the ASQ survey based on the scheduled traffic data, to ensure a fair representation of passengers being surveyed. ASQ provides airports unique data indicating: how passengers rate an airport's services at various touch points; how an airport's passenger perception compares to others around the world by traffic type, size, regions, etc.; which aspects are of particular importance for the individual specific airport; and how passengers' perceptions and priorities are changing over time.

1.3 UNDERPINNED BY SIGNIFICANT INVESTMENTS BACK INTO AIRPORT INFRASTRUCTURE

Between 2005-2015, the top 21 EU & EFTA airports invested over **€53 billion** back into their infrastructure. This investment was made to maintain day-to-day operations, comply with increasing regulatory requirements, add new capacity and increase service quality levels.

- This is more than the total volume of investment expected to be triggered by the EU 'Investment Plan for Europe' across all sectors of the EU economy in its first year of operation[5], and more than **10 times greater** than the investment expected to be triggered in the transport sector alone[6].
- It is also **11 times greater** than the total amount of EU funding provided to airports between 2000 and 2013[7].

1.4 ALL FOR LESS THAN €3 PER PASSENGER – AND WITH NO VISIBLE IMPACT ON AIRLINE FINANCES

As the European Commission's Aviation Strategy also highlights the importance of the cost efficiency of Europe's airports, it is equally important that these improvements be considered relative to the associated costs incurred by users.

These investments and subsequent improvements in capacity, connectivity & quality of course did not come for free:

- There was an average real-term increase of **+25.4%** in charges at these 21 airports between 2005-2014[8].
- This equates to an average annual increase of **+2.3%**, or an absolute increase of just **€2.85** per passenger.

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[5] *'The Investment Plan for Europe – State of Play as of January 2016',* European Commission. Circa €50 billion of investment was expected to be triggered – available at: http://ec.europa.eu/priorities/sites/beta-political/files/ip-eu-state-of-play-jan-2016_en.pdf

[6] *'The Investment Plan for Europe – State of Play as of January 2016 – Transport',* European Commission. Circa €4.6 billion was expected to be triggered in transport projects - https://ec.europa.eu/priorities/sites/beta-political/files/sector-factsheet-transport_en.pdf

[7] *'2014 – Report No. 21'* European Court of Auditors, Figure 1 – available at: http://www.eca.europa.eu/Lists/ECADocuments/SR14_21/QJAB14021ENC.pdf

[8] Sum of aeronautical revenues from all airports divided by sum of passengers from all airports. Data was also requested for 2015, but an insufficient sample of airports was secured, as financial results for the year had not yet been officially been released.

Throughout this period however, airlines and passengers continued to benefit from below-cost charges. In any given year, revenues from airport charges never covered more than between **60-70%** of the actual overall costs of these airports, which all used margins from commercial activities (retail, parking, etc.) to reduce the burden on users[9].

It must also be remembered that the period under consideration saw the costs of providing security services at airports increased by **+22.4%**, as new regulatory requirements – such as the introduction of the ban on liquids, aerosols & gels in 2006 – imposed significant additional costs upon European airports which were generally not compensated via public financing (as is the case in most parts of the world).

Increased security costs alone equalled **€0.51** per passenger at the 21 airports, in the context of the **€2.85** per passenger increase in airport charges. Further costs driven by additional security regulatory requirements are anticipated in the near future[10] – these should not be conflated with issues of airport competition and regulation.

These airports also experienced a significant increase in capital costs – equivalent to just under **€10 bn** across the period considered.

Equivalent & Higher Price Changes Over a Decade in other sectors

Over the course of a 10 year period, cumulative price changes can be quite substantial – even in the case of essential products & services.

Between 2005 and 2015, across the EU, costs increased in real terms. Some examples:

- Overall Education costs **+30.8%**
- Electricity prices **+30.8%**
- Water Supply **+25.3%**
- Sewerage **+24%**

In other transport modes, the cost of passenger transport increased as well, over the same period and again all after inflation:

- Travel by Rail **+22.3%**
- Travel by Road **+18.7%**
- Travel by Water (Sea & inland Waterways) **+26.5%**

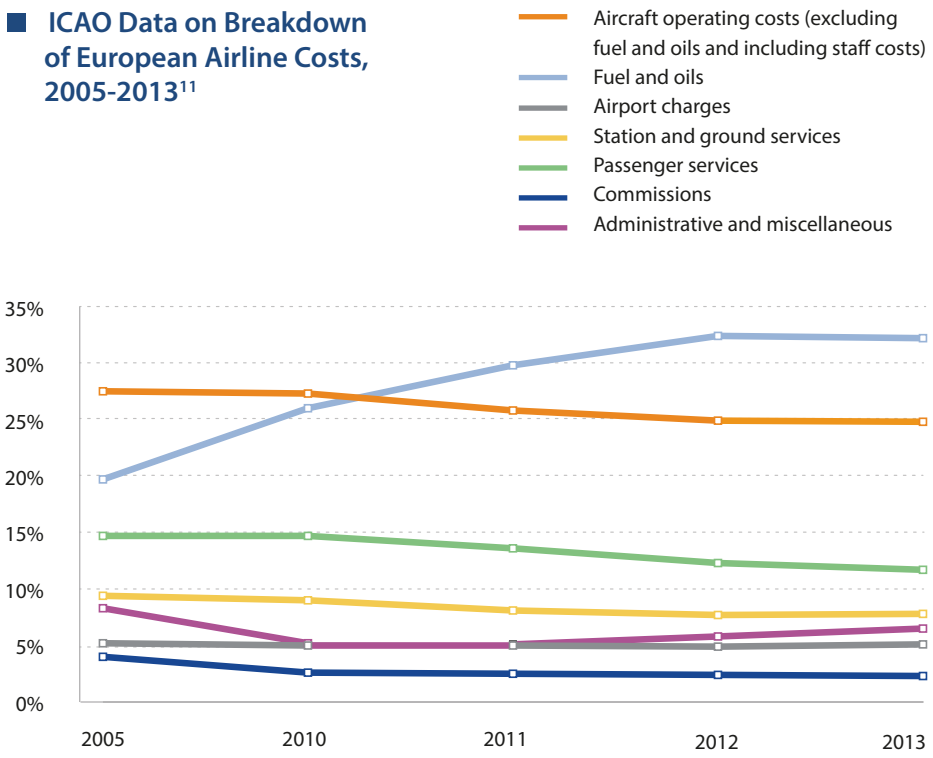
(Eurostat HCIP dataset)

[9] Even in instances where the 'dual till' was applied, revenues from airport charges typically outweighed total costs.

[10] In particular EU regulations concerning the installation of Explosive Detection Systems (EDS) for hold baggage are anticipated to cost the industry between €10-15 billion.

It should also be noted that ICAO figures indicate that the above mentioned capacity & service improvements have been delivered without a visible adverse impact upon airline operating costs.

ICAO Data on Breakdown of European Airline Costs, 2005-2013[11]



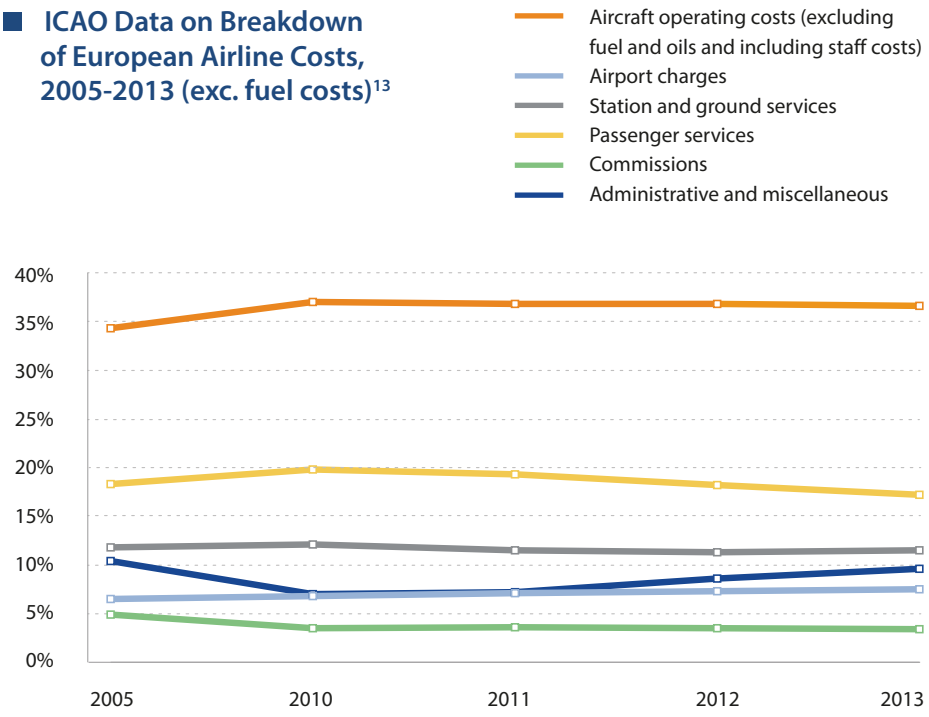
For the past number of years, ICAO has been collecting data from its Member States on airline financial information. This includes the sums that are paid each year as airport charges, as well as the overall operating expenses of airlines.

The graph clearly shows that airport charges represent only a small fraction of overall European airline costs, and that this fraction has in fact decreased slightly since 2005, in spite of the fact that airport service quality and capacity has increased.

[11] Values for 'Navigation charges' & 'Ticketing, sales & promotion' removed to improve legibility. 'Navigation charges' represented 5.1% of total airline in 2005 and 5.5% in 2013. 'Ticketing, sales & promotion' represented 5.9% of total airline costs in 2005 and 4.1% in 2013.

Even when oil costs are controlled for (as fuel makes up a considerable proportion of airline costs and can be very volatile) airport charges remain practically flat as a % of overall European airline costs. This is particularly impressive given the rise of LCCs over the period from circa 25% of the market in 2005 to 48% in 2015, as these airlines operate more intensively routes which are on average shorter, and therefore structurally have higher proportion of their charges related to airport services & infrastructure.[12]

ICAO Data on Breakdown of European Airline Costs, 2005-2013 (exc. fuel costs)[13]



[12] Statements by various airline representative associations suggest that airport charges may represent a proportion of LCC operating costs which is twice that of full service carrier operating costs.
[13] 'Values for 'Navigation charges' & 'Ticketing, sales & promotion' removed to improve legibility. 'Navigation charges' represented 6.4% of total airline costs (ex. fuel) in 2005 and 8.1% in 2013. 'Ticketing, sales & promotion' represented 7.4% of total airline costs (ex. fuel) in 2005 and 6% in 2013.

1.5 A4E CLAIMS DO NOT REFLECT REALITY

In January 2016, A4E claimed that charges at these 21 airports went up by +80% over the past decade. This was manifestly not the case. The actual increase was far more modest – and amounted to **less than €3 per passenger.** Some of the methodological weaknesses in A4E's approach are considered in Annex 2.

In parallel A4E did not acknowledge the important improvements in capacity and quality, nor the substantial investments that required this increase in charges. A4E therefore gives no insight into the increased value delivered by these airports.

Finally, A4E claim that air fares decreased by -20% in the same period. Yet in contrast Eurostat data indicates that the price of air transport increased by +29%[14] during this time.

It is not clear how this claimed -20% figure was derived. But it is possible that A4E is referring to the base price of air tickets – and ignoring all the additional ancillary charges which are now routinely levied by airlines for services which had previously been covered by basic air fares (e.g. credit card fees, baggage fees, preferred seating, etc.)

The A4E analysis does not provide additional insight into the dynamics of the industry. Neither does it assist in furthering the policy objectives of the Aviation Strategy.

[14] Eurostat Harmonised Indices of Consumer Price levels for 'Passenger Transport by Air' – January 2005 versus January 2016. Accessible at http://ec.europa.eu/eurostat/web/hicp/data/database#

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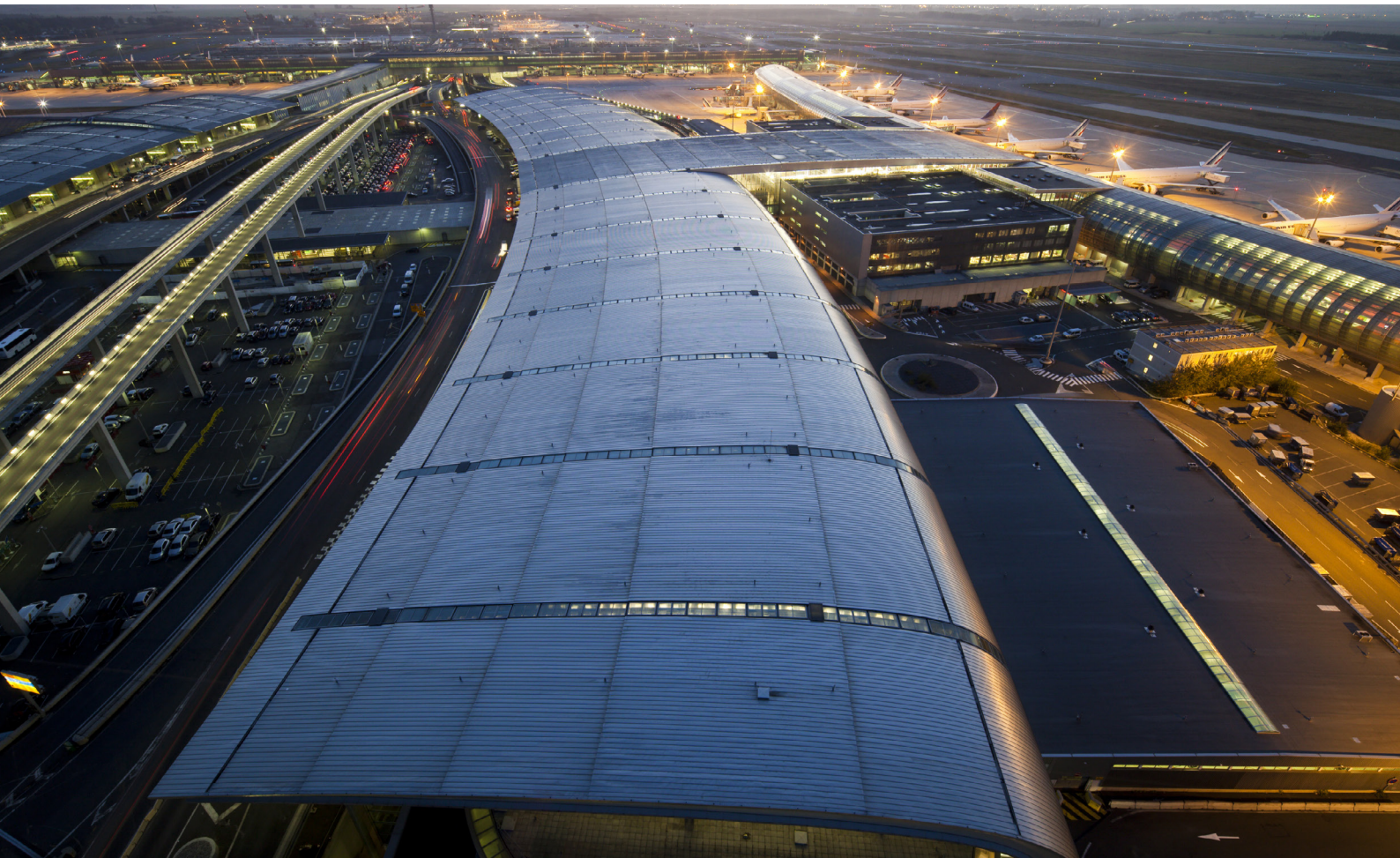
THE CENTRAL ROLE OF AIRPORT INVESTMENT



Section 1 has outlined the record of delivery of the 21 largest EU & EFTA airports over the past decade – and quantified the investment & charging that were required for that purpose. This close link between capacity & quality delivery, investment and charges at airports is fundamental.

When the discussion revolves so much around the specifics of regulation, the bigger picture is often neglected. It must be remembered that, as a direct result of both EU and national policy choices, airports in Europe are now businesses in their own right. This means that operators can only deliver services and facilities if and when users pay for the associated costs.

2.1 SUFFICIENT LEVELS OF BOTH INVESTMENT & AIRPORT CHARGES ARE ESSENTIAL PREREQUISITES

EU States have increasingly been relying on private operators to manage and develop airport facilities. This trend has recently accelerated with close to 50% of EU airports relying on private shareholders, up from just 23% back in 2010[15]. On-going constraints on public finances experienced across the EU are likely to lead to even more private involvement in airports in the coming years. However, private shareholders will only step in if they can earn an appropriate return on their time, labour and investments.

In parallel, EU State aid guidelines now essentially rule out public funding for any airport with more than 5 million passengers per annum, other than on the grounds of the 'Market Economy Operator Principle' – which in practice means that there must also be the realistic prospect of a reasonable return on any public investments into airports.

This means that EU policy in effect dictates that large airports should operate as **self-sustaining commercial businesses**. While margins from commercial activities such as retail and car parking help cover some of the costs, in Europe it is ultimately unavoidable that **charges must reflect the costs of maintaining and expanding an airports' operations** - and that these charges are paid by those users that benefit from the airport operation.

Put simply, maintaining operations, adding extra capacity and improving services & facilities come at a cost, and these improvements can only be achieved if users pay these costs. As well as being a logical consequence of EU State Aid policy, this principle is a cornerstone of the EU Transport policy – with the *'User Pays Principle'* enshrined in the European Commission's current *'White Paper for Transport'*[16].

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[15] *'The Ownership of Europe's Airports 2016',* ACI EUROPE, 2016 – available at: https://www.aci-europe.org/component/downloads/downloads/4538.html

2.2 INVESTMENT IS THE KEY DRIVER OF BOTH AIRPORT CHARGES AND INCREASED CAPACITY & QUALITY

The central role that investment plays is already evident from the overall record of delivery at the top 21 EU & EFTA airports across the past decade. The additional analysis below specifically considers the **relationship between airport charges and capacity & quality** – as well as the **underlying investments** that directly link the two together.

For the purpose of this analysis, the 21 airports identified by A4E were divided into 2 groups, according to their real % change in airport charges in the last decade[17].

- Group A comprises the airports that **increased** charges over the past decade.
- Group B comprises those airports that **reduced** or essentially left **stable** airport charges over the past decade

Group A	Group B
10 airports	11 airports (10 excluding Tegel)
Charges varied by between +130.5% and +10.7% at these individual airports, between 2005-2014.	Charges varied by between +3.1% and -26.4% at these individual airports, between 2005-2014.

Airports in each group can be found in table on page 28

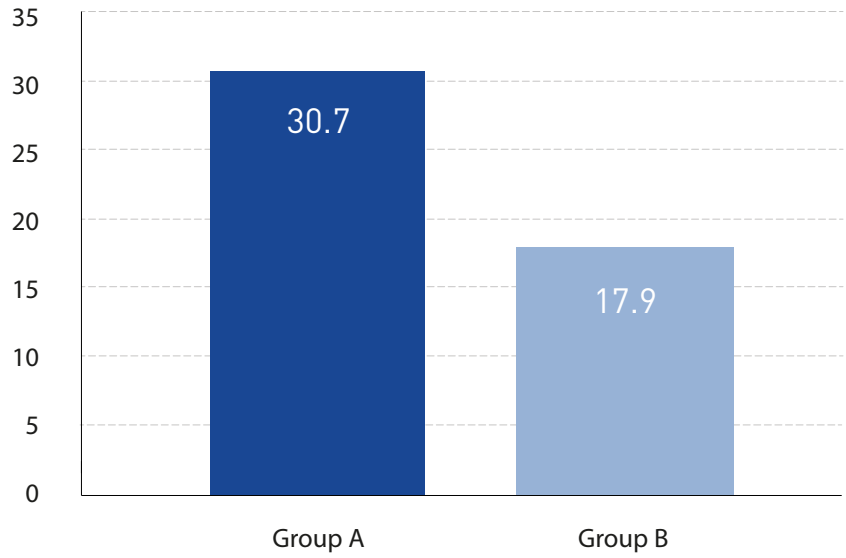
[16] *'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system'* European Comission, 2011 – available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144&from=EN

[17] To avoid distortions, constant exchange rates were assumed for those airports outside of the euro-zone. Tegel airport was excluded from the analysis concerning capital expenditure and capital costs, as this investment largely related to the new Berlin Brandenburg Airport, which has not yet opened and for which the operator is not collecting remuneration – therefore in this instance the data will not reflect the link between investment and charges.

CAPITAL EXPENDITURE

Group A airports invested almost twice as much into their facilities as Group B airports spending **€30.7bn** compared to Group A's capital expenditure of **€17.9bn** in the period under analysis. Each year, Group A airports dedicated an average of **€523m** to capital expenditure, versus **€249m** for the Group B airports. Group A airports also invested more on a per passenger basis, compared to Group B airports.

Total Capex Spend, 2005-2014 (€ bn)



CAPITAL COSTS

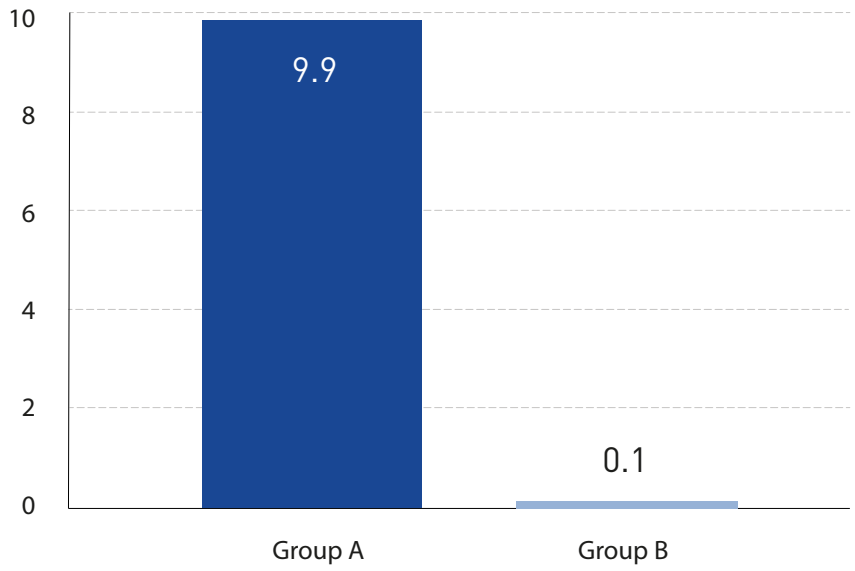
While it is possible for routine small-scale investments to be financed via retained earnings, this is not generally the case for larger capital expenditure projects. This means that those airports that embarked on such larger programmes disproportionately incurred the associated capital costs.

This was exacerbated by the global financial crisis, which significantly raised interest rates for airports. While rates have declined in recent years, the legacy issues remain with per-passenger interest costs still above pre-2008 levels.

The below graph quantifies the increase in interest and depreciation costs experienced by the 2 groups of airports, compared to a scenario where 2005 per-passenger costs stayed constant in real terms across the period.

As can be seen the vast majority of additional costs faced by the 21 airports fell upon those within Group A. These were the airports that had to borrow to finance expansion.

Total Additional Capital Costs 2005-2014 (€ bn)

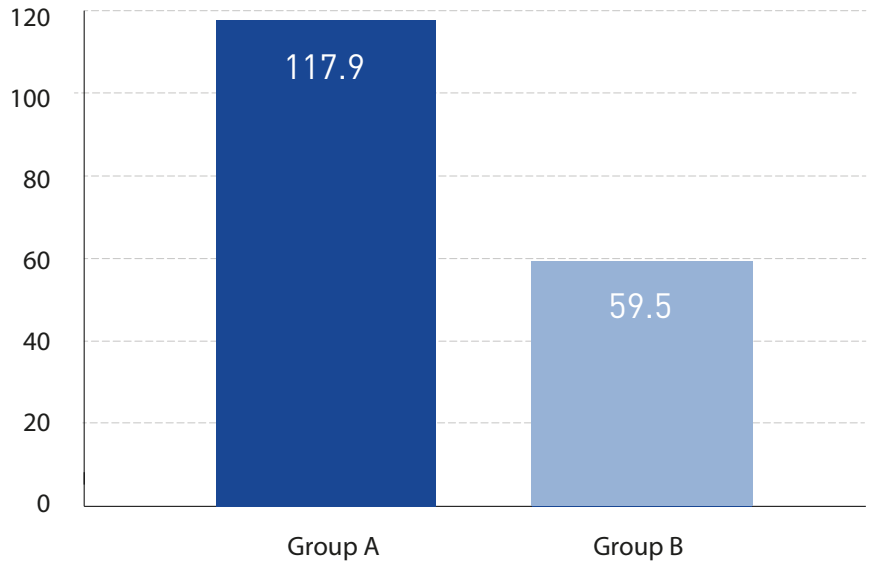


CAPACITY

Group A airports expanded their facilities to accommodate an additional **118 million passengers** each year. The equivalent extra capacity at Group B was **60 million passengers**.

This capacity has being provided at well-populated economic centres, where demand for air services is strong , and where the extra capacity will enable the accommodation of future growth and also help ensure effective airline competition – which is key to the availability of reasonable and competitive air fares to the travelling public.

Total Additional Capacity 2005-2015 (mppa)



SERVICE QUALITY

The ACI Airport Service Quality (ASQ programme) surveys passengers in a standardised way at over 250 airports worldwide, to consistently quantify and benchmark passenger satisfaction in a range of different fields, for each individual participating airport.

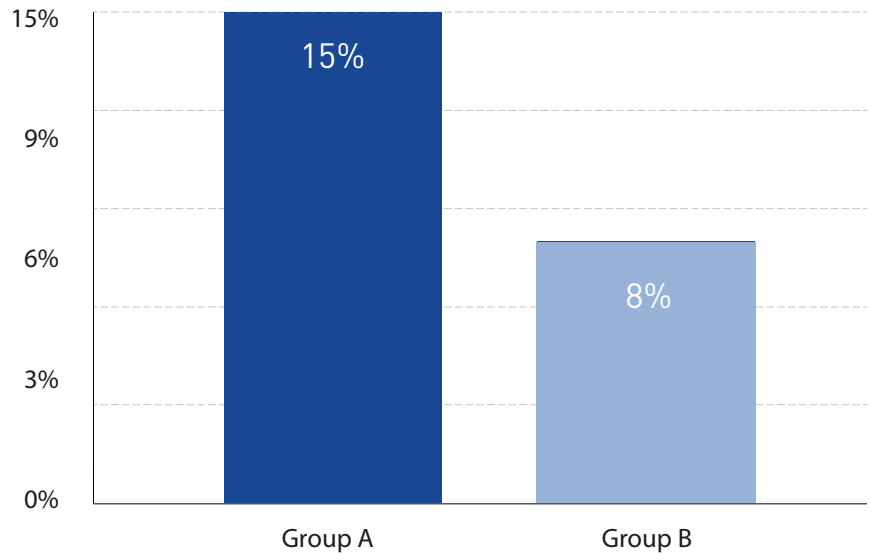
All airports identified in the A4E study participated in the ASQ programme between 2006-2015 inclusive[18].

As can be seen, passengers travelling through Group A airports reported an increase in overall satisfaction levels almost twice those of their counterparts going through Group B airports.

The same trend was observed in average scores for all individual ASQ fields (e.g. ease of wayfinding, ease of making flight connections, ambience of airport, comfort of waiting area, etc.) with the average increase in satisfaction level reported by passengers at Group A airports being significantly higher than the equivalent increase reported at Group B airports. See Annex 3, for a comparison of the development of all ASQ scores between Group A and Group B airports.

There was a clear process of convergence between Group A and Group B airports between 2006-2015. Group A airports had slightly below industry-average levels of 'overall satisfaction' in 2006, while Group B airports were above average. More investment was required at Group A airports to bring them up to higher industry standards.

% Change in Overall Passenger Satisfaction with Airport, 2006-2015



[18] Of which 15 participated specifically in 2006 & 2015.

2.3 A COMPETITIVE DYNAMIC TO BEST LEVERAGE THE AIRPORT INVESTMENT CYCLE

Group A airports were substantially cheaper than the average of the 21 airports back in 2005. Conversely, Group B airports were more expensive than this average. Between 2005 and 2014, the relative position of the 2 groups reversed.

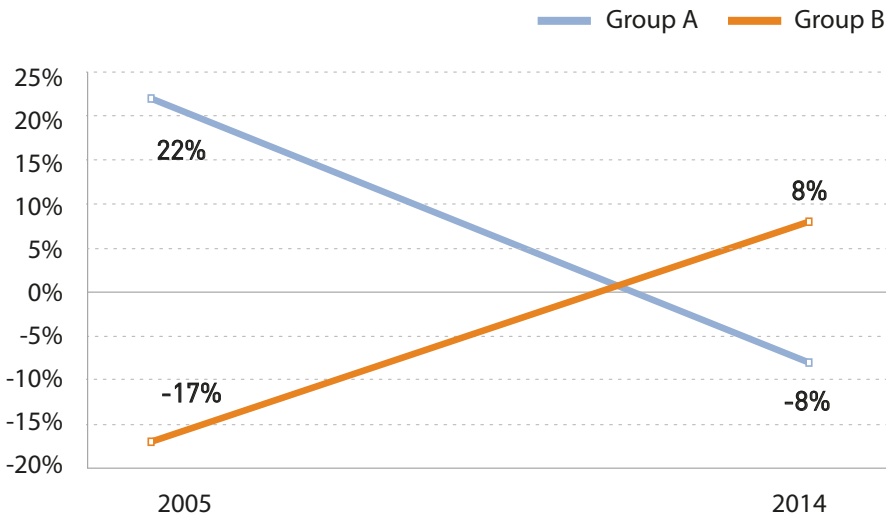
Those airports that had previously been relatively more expensive in 2005 enjoyed a subsequent 'low phase' in their investment cycle after 2005, and this allowed them to reduce or keep flat airport charges, while providing a relatively higher-quality product.

Conversely Group A airports were just exiting the 'low phase' of their investment cycle back in 2005, and were obliged to ramp up investment to meet the higher standards which had been set by Group B airports. But this subsequently required an increase in airport charges to recoup the costs.

This 'catch up' in terms of price and quality, is a reflection of the **competitive dynamic** at play between airports in Europe, with adequate investment being a key component of this competition.

With airports inevitably being at different positions of their investment cycles, and with these cycles spanning over several years, there will always be some airports in Europe which are 'catching up' in terms of capacity and service quality provision. Consequently there will always be some increases in airport charges which, if taken in isolation and not properly contextualised, can be claimed as 'justification' for additional layers of regulation.

Airport Charges Relative to Overall Average, 2005-2014



Why Airport Investment Matters to Europe

Europe's Airport Capacity Crunch

Considerable investment in airport facilities will be needed to avert EUROCONTROL's forecast 'Airport Capacity Crunch'. EUROCONTROL estimates in its *'Challenges of Growth 2013'* study that by 2035 around **1.9 million flights** will not be accommodated due to an absence of sufficient airport capacity in Europe[1]. This will account for 12% of demand not being satisfied, and has been described as being equal to **120 million passengers** each year.[2] More than 20 major European airports will be running at or close to capacity by this time (compared to just 3 in 2012).

There are serious costs associated with these limits on European airport capacity.

As well as the immediate costs to industry, and the cost of significant delay experienced by travellers, there will be a wider loss of prospective economic activity. As cited in the Aviation Strategy, a Taskforce of the *'European Observatory on Airport Capacity & Quality'* found that the direct, indirect and induced adverse impact of the capacity constraints could reach **€28.2-€52.3 billion** in lost GDP each year. Beyond this, wider economic activity facilitated by air connectivity (trade, tourism, investment, etc.) would suffer by **€44.1–€86.3 billion** annually.[3]

Connectivity & Productivity

While there are serious costs associated with not putting in place adequate capacity, equally there are considerable benefits associated with providing this capacity and facilitating air connectivity growth. **Research has shown that a 10% increase in air connectivity is associated with a 0.5% increase in GDP per capita.**[4]

As economies become even more globalised, and as the centre of economic gravity continues to shift east, air connectivity will be an even more essential means of maintaining Europe's place in the world economy.

More trade and investment opportunities allow increased productivity in the economy – which translates directly into more jobs and more money in peoples' pockets.

Air Fares

See Box on *'Airline Incentives to Oppose Airport Expansion'*
If airports are not allowed to make the necessary investment, the resulting capacity constraints will limit airline competition and thus require the travelling public to pay higher air fares.

Reduce Airline Operating Costs

Airlines can often leverage investment in airport infrastructure to reduce their own operating costs. More sophisticated baggage sortation systems, self-check in & baggage drop facilities, self-boarding gates, A-CDM, taxiway reconfigurations and ground power units are all examples where investments in airport facilities can reduce airlines' operating costs – typically by using technology to reduce labour costs.

An Investment-Starved Europe

President Juncker of the European Commission expressly identified the strengthening of competitiveness and the stimulation of investment as his *'first priority',* and that this investment should be made in infrastructure, including transport infrastructure in industrial centres.[5] It was made clear that the EU is facing a serious investment deficit, with 2014 levels of investment 15% below the 2007 peak and well below historical trends.

Indeed, the resulting 'Investment Plan' is a core component of the European Commission's strategy to reverse this situation and to restore Europe to growth. While stimulating new investment is essential, it is no less important to ensure that the right policy framework is in place to avoid undermining existing investment, which is already delivering substantial economic benefits for EU citizens.

[1] *'Challenges of Growth 2013'* EUROCONTROL, Task 4
[2] European Commission website – see http://ec.europa.eu/transport/modes/air/airports/airport_capacity_and_quality_en. _en.htm Retrieved 7 April 2016
[3] '*Final Report of TASK FORCE - 'Economic impact of unaccommodated demand and environmental variables influencing airport capacity'* European Observatory on Airport Capacity & Quality, May 2015 – available at: http://ec.europa.eu/transport/modes/air/airports/doc/tf1_final_report.pdf
[4] *'Economic Impact of European Airports – A Critical Catalyst to Economic Growth',* InterVISTAS, January 2015
[5] *'Political Guidelines of Jean-Claude Juncker, President of the European Commission',* presented in the European Parliament on 15 July 2014

3

THE NEED FOR A NEW APPROACH TO OPTIMISE AIRPORT INVESTMENT

In many respects, governments in Europe are extremely fortunate – unlike other transport modes and other regions of the world, in Europe the market can generally be relied upon to deliver the core investments at larger airports – taxpayers are not required to contribute. These investments then go on to deliver significant and quantifiable benefits to consumers and the wider economy alike.

However it is crucial that the right policy framework is in place to keep supporting and incentivising this investment. We have already seen that airport charges are a key enabler of investment, and in turn investment is key to the delivery of the Aviation Strategy objectives.

There is no form of credible regulation which will deliver airport investments to users for free. But the right approach towards the economic regulation of airport charges can make a difference both to the profile of airport charges and to the overall costs of the investment.

3.1 REGULATION & CHANGES IN AIRPORT CHARGES

The table on the following page shows the real[19] change in aeronautical revenue per passenger, at each airport[20] for the period 2005-2014, as well as average aeronautical revenue per passenger (i.e. airport charges) both in 2005 and 2014.

What is most striking is that in general, **those airports that have experienced the largest increases in charges are also those which had the tightest and/or most elaborate forms of oversight** - for example airports which were strict RAB-based regulatory systems[21], or airports which were subject to long-term government-imposed freezes in nominal levels of airport charges (i.e. mandatory real-term decreases).

These are clearly not jurisdictions where uncontrolled airports abused positions of substantial market power.

[19] Specific national inflation figures are applied to each airport
[20] For those airports for which ACI EUROPE had permission to publish data.
[21] 'RAB-based regulation' estimates the value of the capital stock of the company, and, taking into account the costs and revenue streams, allows the company to make a specific % return on this capital stock value.

	Airport	Real % change in airport charges, 2005-2014	Aeronautical Revenue per Pax (€)[21]	
			2005	2014
GROUP A	LHR	+130.5%	12.90	29.74
	DUB	+66.9%	5.95	9.92
	LGW	+40.5%	7.84	11.01
	FCO	+18%	10.11	11.93
	CDG & ORY	+14%	10.55	12.03
	ARN	+10.7%	7.20	7.97
GROUP B	FRA	+3.1%	16.10	16.60
	MAN	+2.1%	10.20	10.41
	AMS	-0.4%	14.89	14.83
	CPH	-1.3%	12.45	12.29
	BRU	-3.8%	15.83	15.23
	MUC	-5.5%	12.98	12.26
	ZRH	-9.8%	17.39	15.69
	OSL	-13,0%	11.76	10.23
	DUS	-13.9%	11.79	10.15
	VIE	-16.5%	12.49	10.43
	TXL	-26.4%	9.50	6.99

**Figures provided for all airports for which ACI EUROPE had permission to publish their data.*
Based on public information, Barcelona, Madrid & Palma de Mallorca airports are included in Group A.

An obvious immediate conclusion is that additional restraints on airport freedom – as airlines are calling for – will not prevent significant increases in airport charges. The data simply shows no relationship between intensive regulatory controls on airports and decreasing/stable airport charges[22].

In fact, the data indicates that the opposite is true – **more prescriptive regulatory controls instead contribute to more dramatic swings in airport charges.** Meanwhile those airports which have seen airport charges remain essentially stable – or indeed decrease – tend to operate under regulatory regimes:

- where the EU Airport Charges Directive is implemented without too many additional complex controls or requirements;
- where airports and airlines are more incentivised to engage directly with each other on a more commercial basis;
- where the regulator is more likely to only intervene in the case of an appeal.

[22] Interestingly, Group A has more airports operating under 'single till' regimes than Group B.

3.2 HOW ECONOMIC REGULATION CAN AFFECT THE PROFILE OF AIRPORT CHARGES

Rigid price cap regulation often offers limited opportunity for the airport operator to financially prepare for the large capital expenditure. This system generally results in economic rents accruing to the airlines and not to the airport. There is subsequently less opportunity to use retained earnings to contribute towards expansion. In practice, this translates into larger loans with higher interest rates for the airport, and ultimately more expensive investment programmes. As a result, this system tends to lead to **sharper increases in airport charges**, when the more-expensive investment costs are suddenly allowed to be financed by the airport via charges.

In parallel, these regulatory frameworks provide airlines with excessive powers to veto or significantly postpone necessary airport investments. At congested airports, this also allows dominant airlines to extract **premium yields** from their passengers, due to insufficient capacity and insufficient intra-airline competition – which in turn gives these airlines strong reasons to continue to oppose any expansion of capacity indefinitely (see Box).

This system also results in meaningful investment back into airport infrastructure either not occurring or being postponed until it becomes absolutely unavoidable. This thus initially leads to **excessive sweating of assets, reduced service quality and unsustainably low airport charges** – then followed by capital expenditure projects that are consequentially larger and with more concentrated costs than might otherwise be required. It can also result in delays to planning processes – leading to a more difficult political and economic environment which does not facilitate the obtaining of the necessary planning permissions.

In contrast, the on-going work of the UK CAA offers an **alternative approach**, whereby airports and airlines may be incentivised to work together to find a **commercially sensible way** of ensuring **adequate and timely investment in airport infrastructure** - in a manner that minimises risk, cuts unnecessary expense, and smooths the financial impact upon users. See overleaf for more details.

This planned approach supports the findings of a previous ACI EUROPE Analysis Paper[23]. **Commercial negotiations between airports and airlines, based on enlightened self-interest rather than the zero sum game of political & regulatory conflict, tend to deliver more efficient outcomes overall.**

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[23] See *'Competition in the European Aviation Sector'* ACI EUROPE, March 2014 – available at: https://www.aci-europe.org/component/downloads/downloads/3829.html

Airline Incentives & Airport Capacity Constraints

It has been well documented that passengers at congested airports can be faced with excessive air fares[1].

With demand for air services greater than supply (which is limited by airport capacity) and dulled intra-airline competition due to a scarcity of slots, airlines are free to charge passengers well in excess of the actual costs incurred in providing the air services.

Estimates as to the extent of this vary, but a recent PWC study commissioned by the UK Airports Commission found that airlines charged a +18% premium on air fares at airports with capacity constraints across Europe. A Frontier Economics study found that airlines on average charged passengers an extra €70 premium (£50) on each one-way ticket at Heathrow Airport, and a €9.70 premium (£7) at Gatwick Airport.

This is the sole reason why airport slots can be traded for such large sums – airlines are confident that they can ultimately get the flying public to more than compensate them for the price of such slots. These transactions generally remain confidential, but a recent deal saw Oman Air buy one pair of slots at Heathrow from Air France-KLM for US $75 million[2].

This also incentivises airlines to sometimes delay or oppose airport expansion, as more capacity and the associated increase in intra-airline competition would force them to deliver lower air fares to passengers, which actually have some relationship to the costs involved.

For example, British Airways –the largest airline at Heathrow– opposes the current proposed expansion at that airport, while easyJet –which is based at Gatwick– has been supporting Heathrow expansion rather than expansion at Gatwick.

[1] For a selection see *'EU Slot Policy at Congested Hubs, and Incentives to Add Capacity',* Gillen D & Starkie D, April 2016 – *' Fare differentials: Analysis for the Airports Commission on the impact of capacity constraints on air fares'* PWC, December 2013, - *'Scarcity rents and airport charges'* SEO Economic Research, April 2015 – *'Impact of airport expansion options on competition and choice – A Report Prepared for Heathrow Airport'* Frontier Economics, April 2014.

[2] CAPA News, February 2016 – available at: http://centreforaviation.com/analysis/gulf-airlines-in-london-heathrow-slot-purchases-expand-capacity-further-improving-connectivity-267222

CAA Planned Regulatory Treatment of the Next Runway in South East UK

The UK CAA is currently considering how the regulatory framework should handle the financing of the potential additional runway at either Gatwick or Heathrow airports in the coming years. The costs of the expansion range from £6-16 billion, depending on the option chosen.

3 core regulatory principles will underpin their approach to this airport investment, including the principle that *'commercial negotiations (between the airport and airlines) should be encouraged'.* This should be the case *'even where substantial market power is present'.*

Such an approach is favoured as it is recognised that *'it may be possible for a commercial arrangement on capacity expansion to be reached which results in lower, long-term prices (and therefore without any significant increases in prices)'.*

The UK CAA expects that it is likely to have *'some intervening role in setting a broad regulatory framework under which commercial negotiations can take place, and where risk is allocated as efficiently as possible, thereby reducing the cost of capital associated with the project'.*

The UK CAA does recognise that there are challenges with this approach. In the coming months, the UK CAA will be continuing to work on potential parameters of any commercial agreements, and to its potential role in facilitating these agreements.

For more information see the UK CAA's document *'Economic regulation of new runway capacity – CAP 1279'*[24]

[24] Available at http:// publicapps.caa.co.uk/docs/33/CAP1279%20Economicregulationofnewrunwaycapacitynon_confidential.pdf

CONCLUSION

While ACI EUROPE strongly disagrees with both the approach and results of the A4E Report, such a report did however create a welcome opportunity to reflect upon the role that airport charges regulation should play in the context of the new Aviation Strategy.

As we have seen, the priorities for airports set by the Aviation Strategy can only be achieved through appropriate investment back into airport infrastructure – as well as levels of charges which enable this investment.

This reality reflects the fact that with the Aviation Strategy, Europe is moving towards a less airline-centric approach and a more consumer-centric approach to aviation policy. This necessary evolution comes with a renewed focus on market dynamics and competition – as evidenced by the push towards aviation liberalisation with the EU's main trading partners.

That same focus also needs to be applied to airport charges regulation. Airport competition is now a recognised reality and it is at the basis of the new EU State Aid rules. Yet, when it comes to airport charges, blanket regulation of a large number of airports - irrespective of their actual degree of market power - remains symptomatic of a regulatory approach which at heart remains essentially driven by the impulse to prop up incumbent airlines through arbitrary transfers of wealth from airports.

Fortunately, the Aviation Strategy also recognises the need for this policy realignment, stating that *'When airports are subject to effective competition, the market should determine the level of airport charges and there is no need for regulation'.*

Market-based regulation of airport charges is ultimately about promoting a commercially-oriented self-sustaining air transport sector which will deliver the best outcomes for the travelling public. This would bring a paradigm shift in airport-airlines relationships, helping to foster a genuinely commercial dynamic that would normalise these relationships.

Crucially, this would also be an important step towards supporting the creation of an "aviation eco-system" in Europe and reinforce the wider core objectives of the Aviation Strategy.

Liberalised, competitive & privatised European airport industry

ANNEX 1

DIVERGENCE BETWEEN A4E & ACI EUROPE FIGURES

In January 2016 A4E released a study which presented a range of figures as to the supposed increase in charges between 2005-2015 at the 21 largest airports in the EU & EFTA, with a purported 80% increase generally being the most widely cited.

In fact airport charges increased by +25.4%, at these airports, and this change was driven by substantial investment into the expansion of capacity and the improvement of service quality.

It is impossible to fully understand how the figure of 80% was constructed, but there are some methodological limitations of the A4E study which are immediately clear:

Inflation

A4E's figures do not take into account inflation. Changes in general price levels have been a fundamental characteristics of all modern economies. Increases in general price levels have nothing to do with the aviation sector, and must be controlled for – particularly when an analysis is being conducted over such a long study period. Otherwise background inflationary pressures would be inaccurately attributed to the airport operators.

Over a 10 year period, the cumulative effect of inflation can be substantial – even if inflation rates in some individual years were relatively low. Using World Bank price level data for the individual countries within which the identified airports were located, it was found that weighted price levels for the sample increased by just under 25%, between 2005-2014.

By not clarifying this, A4E implicitly ascribed these general inflationary trends solely to European airports. This is patently false.

Bundling of Charges for Passengers with Reduced Mobility (PRM Charges)

Regulation 1107/2006 introduced additional protection for persons with reduced mobility when travelling by air from mid-2008. An EC-commissioned report noted that *'before the introduction of the Regulation, there had been some well-publicised examples of carriers charging passengers for the provision of assistance that was essential in order to travel'.* [25]

Where previously PRM services were provided by airlines, the Regulation requires airports to instead provide them. As part of this, airports could also pass through the costs involved to the airline – although the Regulation laid down specific regulatory requirements controlling this process[26].

In its study, A4E included these costs as 'airport charges'. This methodological approach meant that the transfer of PRM responsibilities from airline to airport from 2008 would have been recorded as an 'increase' in airport charges, when in fact the airport was simply taking on the burden of what had previously been an airline responsibility, in line with consumer protection legislation.

By not clarifying this, A4E artificially inflates the supposed increase in airport charges.

Representativeness of the Sample Size

The A4E study uses airline data as a basis for the '80% increase in airport charges' figure. Data was provided by IAG (for 2014), easyJet, Lufthansa and Ryanair (both for 2015) but not by other A4E-member, Air France-KLM.

At 9 of the 21 airports identified, the airlines that provided data represent less than 15% of the capacity of these airports. For example, the A4E study includes figures for 'France' yet in reality the report was based on data provided by airlines that use just 11% of the overall capacity at Charles de Gaulle & Orly airports.

Significant extrapolations are being made from very limited amounts of data. It is unlikely that figures resulting from this approach could be very representative or statistically robust.

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[25] *'Evaluation of Regulation 1107/2006 – Final Report'* Steer Davies Gleave, June 2010 – available at: http://ec.europa.eu/transport/themes/passengers/studies/doc/2010_06_evaluation_regulation_1107-2006.pdf

[26] Any PRM charge has to be non-discriminatory, reasonable, cost-related, transparent and established in cooperation with airport users. Separate accounting for the PRM charge is also required.

In addition, claiming airport-specific figures as 'national' figures – even if a sufficient sample for the airport was secured – is still likely to very misleading, given the structural unprofitability of smaller airports.

In contrast, ACI EUROPE collected data on all the revenue from airport charges, for each and every airport identified by A4E, for both 2005 and 2014. There is no extrapolation, as the sample fully represents the actual situation.

Inaccurate Comparisons

A4E compare their claimed figure of +80% for airport charges with a claimed -20% reduction in air fares over the same period. However Eurostat inflation figures indicate that prices paid by EU-28 households for 'Passenger Transport by Air' were 29% more expensive in January 2016 compared to January 2005 – an increase which was significantly more than the underlying level of general inflation (+21%).

It is impossible to know how this claimed 20% reduction was derived. It is possible however, that A4E focused on air fare figures, and ignored the often-unavoidable charges to passengers for so-called 'ancillary services' such as checking in bags, using credit cards, selecting seats, or checking in at the airport.

If this is the case A4E are comparing air fares – which are being paid for a significantly reduced core service – with airport charges, which are being paid for an expanded services (e.g. additional security measures, PRM services – see below).

Methodology versus Interpretation – a Reflection

In truth however, the core issue with the A4E study is not the study itself, but rather the manner in which the study has subsequently been used. Considering price changes in isolation, even if A4E's figures were correct, would only ever give limited insight. As we have seen with investment, if additional or higher quality services and facilities are being provided, then these must be considered alongside price changes, to better understand any changes in the overall value being delivered to users.

In addition consideration must be given to changes in regulatory requirements. In addition to PRM charges, the A4E study also includes any charges associated with security costs. ACI EUROPE also does not separate these charges, as it is very difficult to do so for all airports. However it is worth noting that the 2005-2014 period encompasses the introduction of a range of additional security requirements, including new restrictions on liquids, aerosols & gels (LAGs). Security costs at the A4E-identified airports increased by +22.4% in this time. This corresponded to €0.51 –or almost 20% of the actual €2.85 increase in airport charges over the decade.

Although airports can manage the impact on passengers (passenger satisfaction with security screening actually improved during this time) there is only so much control airports can have over the associated costs. These are strict security requirements with very little room for manoeuvre. Unlike in other regions of the world, in Europe typically there is no public funding for airport security measures.

When this reality is not acknowledged, a distorted and misleading picture is presented. Attributing any and all changes in airport charges solely to inadequate regulation represents a deliberate failure to engage on the details & complexity of the topic, and risks distorting public policy decisions.

ANNEX 2

METHODOLOGICAL APPROACH

ACI EUROPE sent a questionnaire to the 18 operators who are responsible for the 21 airports identified in the A4E study which was released in January 2016.

Responses were received from all operators for all airports.

The questionnaire asked for information on the overall levels of revenues received from aeronautical revenues from 2005-2015 inclusive. Information was also requested on equivalent annual financial figures for other fields, such as capital expenditure, security costs, etc.

Revenues from aeronautical charges were defined as *'Total revenue from aircraft landing & parking charges , terminal or infrastructure charges, passenger service charges, passenger security charges and any noise or environmental charges related to aircraft movements.'* Any revenues from PRM charges and the provision of ground handling services were specifically excluded.

Total aeronautical revenues for each year were divided by total passenger numbers in that year, to derive an 'aeronautical revenue per passenger' for each airport for each year – this allowed a single figure to derive each airport's overall level of airport charges for each year, which was not distorted by the structure of airport charges (e.g. weighting of landing charge versus passenger charge).

An insufficient number of airports provided data for 2015, as accounts had not yet been finalised for the year, and so 2005-2014 was taken as the study period.

To control for annual inflation, all annual figures were cited in 2015 prices. To do this World Bank historical price level figures were applied, for the nation within which each airport is located. See http://data.worldbank.org/data-catalog/world-development-indicators for source.

All non-euro figures were converted into euros via use of fixed exchange rates, sourced from the ECB. €1 = 9.3 SEK, 7.45 DKK, 0.79 GBP, 8.05 NOK, 1.41 CHF

To derive the % change in airport charges (and security costs, capital expenditure etc.) for the overall group of 21 airports, the revenues from all 21 airports were summed up for each year, and divided by the total sum of passenger traffic at these airports in each respective year.

All 21 airports participated in the ACI Airport Service Quality (ASQ) Programme, with 15 airports specifically participating both in 2006 & 2015. This consistent sample of 15 airports was used to derive the weighted average % increase between these years. The average was weighted according the annual passenger traffic of each respective airport.

For more information on the ACI ASQ Programme see http://www.aci.aero/Airport-Service-Quality/ASQ-Home

ANNEX 3

AVERAGE PASSENGER SATISFACTION AT ASQ-PARTICIPATING TOP 21 AIRPORTS IN EUROPE, 2006-2015

	GROUP A			GROUP B			OVERALL		
OVERALL SATISFACTION	**2006**	**2015**	**Variation**	**2006**	**2015**	**Variation**	**2006**	**2015**	**Variation**
Overall satisfaction with the airport	3.13	3.61	**15%**	4.02	4.36	**8%**	3.54	3.98	**12%**
Overall satisfaction with the airport: business pax	2.99	3.51	**17%**	3.91	4.28	**9%**	3.42	3.89	**14%**
Overall satisfaction with the airport: leisure pax	3.19	3.64	**14%**	4.09	4.39	**7%**	3.61	4.01	**11%**
ACCESS									
Ground transportation to / from the airport	3.24	3.59	**11%**	4.15	4.39	**6%**	3.67	3.98	**9%**
Availability of parking facilities	2.92	3.39	**16%**	3.73	3.95	**6%**	3.30	3.68	**12%**
Parking facilities value for money	2.38	2.66	**12%**	3.02	2.93	**-3%**	2.68	2.81	**5%**
Availability of baggage carts / trolleys	3.16	3.47	**10%**	4.01	4.22	**5%**	3.56	3.84	**8%**
CHECK-IN (AT THIS AIRPORT)									
Waiting time in check-in queue / line	3.11	3.63	**17%**	3.83	4.42	**15%**	3.45	4.02	**16%**
Efficiency of check-in staff	3.31	3.76	**13%**	4.06	4.52	**11%**	3.67	4.14	**13%**
Courtesy, helpfulness of check-in staff	3.37	3.75	**11%**	4.18	4.56	**9%**	3.75	4.15	**10%**
SECURITY									
Courtesy and helpfulness of Security staff	3.19	3.57	**12%**	3.96	4.40	**11%**	3.55	3.98	**12%**
Thoroughness of Security inspection	3.16	3.63	**15%**	3.96	4.45	**12%**	3.54	4.03	**14%**
Waiting time at Security inspection	2.95	3.51	**19%**	3.73	4.27	**14%**	3.32	3.88	**17%**
Feeling of being safe and secure	3.25	3.68	**13%**	4.08	4.55	**11%**	3.64	4.11	**13%**
FINDING YOUR WAY									
Ease of finding your way through airport	3.14	3.65	**16%**	3.98	4.42	**11%**	3.54	4.03	**14%**
Flight information screens	3.20	3.69	**15%**	4.02	4.46	**11%**	3.59	4.07	**13%**
Walking distance inside the terminal	2.59	3.21	**24%**	3.40	3.88	**14%**	2.96	3.54	**20%**
Ease of making connections with other flights	2.88	3.40	**18%**	3.77	4.29	**14%**	3.30	3.83	**16%**
AIRPORT FACILITIES									
Courtesy, helpfulness of airport staff	3.27	3.68	**13%**	4.08	4.44	**9%**	3.65	4.06	**11%**
Restaurant / Eating facilities	2.87	3.39	**18%**	3.60	4.02	**12%**	3.21	3.71	**16%**
Restaurant facilities value for money	2.34	2.75	**18%**	2.99	3.15	**5%**	2.64	2.96	**12%**
Shopping facilities	3.11	3.48	**12%**	3.80	4.11	**8%**	3.44	3.80	**11%**
Shopping facilities value for money	2.61	2.84	**9%**	3.26	3.32	**2%**	2.92	3.08	**6%**
Business / Executive lounges	3.16	3.33	**6%**	3.87	4.07	**5%**	3.50	3.69	**6%**
Availability of washrooms / toilets	3.09	3.56	**15%**	3.86	4.24	**10%**	3.45	3.90	**13%**
Cleanliness of washrooms / toilets	2.93	3.42	**17%**	3.79	4.10	**8%**	3.33	3.76	**13%**
Comfort of waiting / gate areas	2.83	3.21	**13%**	3.63	3.89	**7%**	3.21	3.55	**11%**
AIRPORT ENVIRONMENT									
Cleanliness of airport terminal	3.29	3.69	**12%**	4.21	4.44	**5%**	3.72	4.06	**9%**
Ambience of the airport	3.05	3.51	**15%**	3.97	4.21	**6%**	3.47	3.86	**11%**
ARRIVALS SERVICES									
Arrivals passport and visa inspection	3.02	3.49	**16%**	3.85	4.29	**11%**	3.41	3.88	**14%**
Speed of baggage delivery service	2.74	3.20	**16%**	3.60	3.87	**7%**	3.14	3.53	**12%**
Customs inspection	3.00	3.43	**14%**	3.82	4.18	**10%**	3.39	3.80	**12%**

ACI EUROPE 25 YEARS 19912016

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