Letting competition fly

The case for two national flag carriers

A WPI Economics
report for **Virgin Atlantic**

WPI ECONOMICS

About

The Authors

Matthew Oakley, Director

Matthew is a respected economist and policy analyst, having spent well over fifteen years working in and around policy making in Westminster. Before founding WPI Economics Matthew held a number of roles including Chief Economist and Head of Financial Services Policy at the consumer champion Which?, and Head of Economics and Social Policy at the think tank Policy Exchange. Matthew also led the Independent Review of Jobseeker's Allowance sanctions that reported to Parliament in 2014, and previously spent eight years as an economist at HM Treasury.

James Edgar, Chief Economist

James has fifteen years of experience working as an economist at the forefront of policy making. His areas of expertise include transport, utility regulation, consumer policy, environmental and digital issues. Prior to joining WPI James was Head of Policy for Digital and Regulation at the consumer champion Which?. Before this he worked for a decade at the Department for Transport, including as the Head of Road Economics after establishing the successful multi-disciplinary team. He has experience of local transport, freight, rail and environmental issues and has also previously worked at the Bank of England.

WPI Economics

WPI Economics is a specialist economics and public policy consultancy. We provide a range of public, private and charitable clients with research, modelling and advice to influence and deliver better outcomes through improved public policy design and delivery.

The report

This report builds on our previous work "Ticket to Fly" to demonstrate why a second hub carrier is needed at Heathrow Airport to deliver the increase in effective competition and choice that the Government is targeting from the planned expansion of capacity. This report was supported by Virgin Atlantic and draws on internal research and modelling analysis conducted by ICF for Virgin Atlantic. We find that Heathrow is large enough to support two home hub carriers and drawing on a range of evidence we conclude that decisive action by the Government to create a second home hub carrier would boost competition, lower fares and improve service and passenger choice.

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Executive Summary

Expansion at Heathrow, the UK's only hub airport, presents a once-in-a-generation opportunity to boost competition, lower fares and increase choice for UK air passengers. Indeed, the very case for building the third runway is based upon achieving these objectives. In May this year we published the first report in this series, "Ticket to fly", that showed that the system of allocating airport capacity is central to these benefits being maximised. This report builds on that to demonstrate why a second hub carrier is needed to deliver the increase in effective competition and choice that the Government is targeting.

Hub airports and carriers can create significant benefits by pooling passengers together to create high demand routes and allow airlines to benefit from economies of scale. Where they are combined with effective competition, passengers will benefit from increased connectivity to a wide range of destinations and reduced prices.

Airline competition at Heathrow Airport today

However, hub airlines may come to dominate their market at the expense of competition and to the potential detriment of passengers. This is the circumstance at Heathrow where we estimate that the UK's existing hub carrier, IAG (International Airlines Group), holds around 55% of the overall capacity, which we estimate has the following effects:

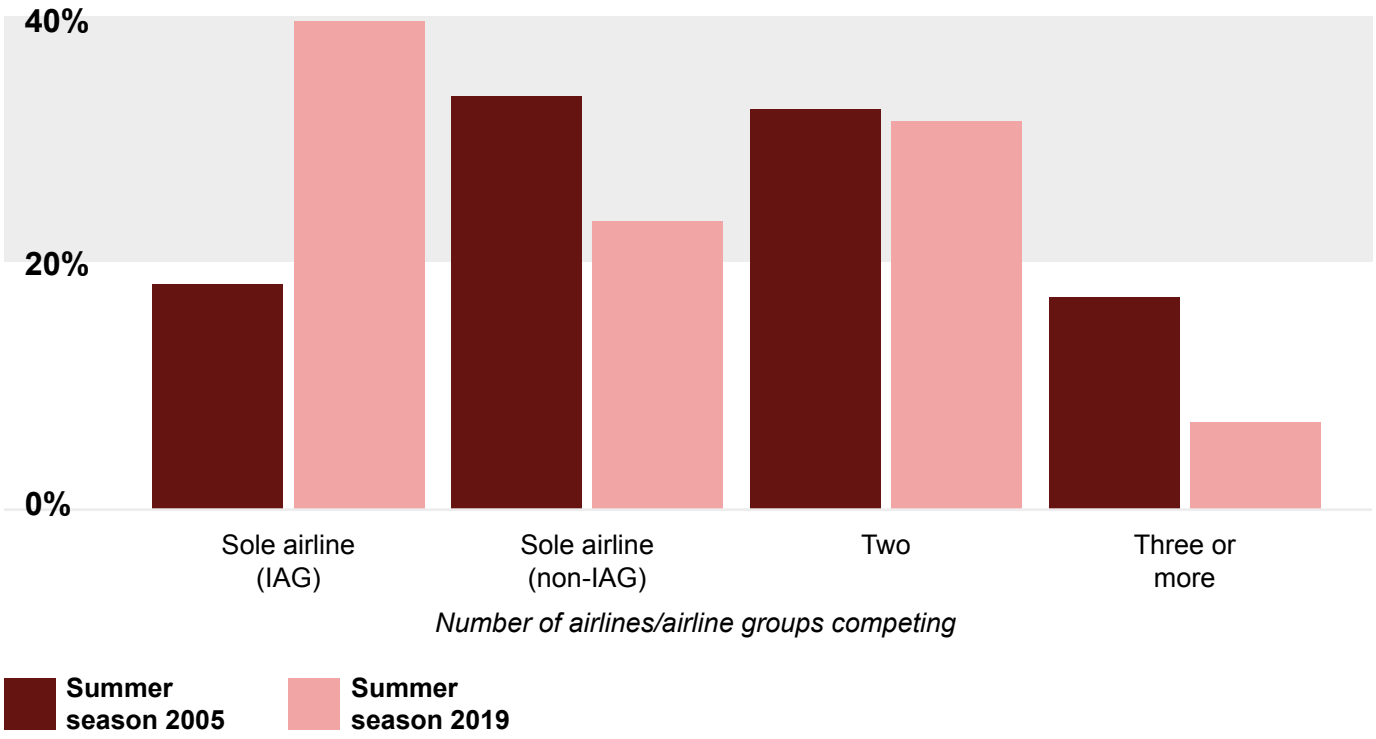
- 39% of all routes from Heathrow (and 55% of all short-haul routes) are served only by IAG and its Joint Venture partners including a wide range of destinations such as Glasgow, Manchester, Madrid and San Diego.The situation has worsened significantly over the last decade-and-a-half as shown in figure 1.
- 77 routes and 18.5 million passengers are currently insulated from competition at Heathrow. This reduces choice for passengers, and could both increase prices and mean that businesses do not get the quality of service to a wide range of destinations that they should.
- Although literature on the impact on price is mixed, a cautious application of the evidence suggest passengers could be paying £100-£170million per year extra due to the lack of competition.

A second hub carrier is the only way to substantially increase passenger choice

The question is then how to increase competition and choice on these routes. The Competition and Markets Authority have said that this requires smaller airlines being able to grow rapidly to benefit from the economies of scale that hub carriers enjoy.[1] In practical terms, we find that a new hub carrier will be required in order to increase competition to any significant degree.

In simple terms, this is needed because many existing monopoly routes, and new routes in the future, are not commercially viable with direct passengers (those flying to point-to-point without a connecting flight) alone. An airline looking to compete on monopoly routes at Heathrow, but relying solely on direct passengers, would need to fly with aircraft nearly half empty. On IAG monopoly routes (including those flown by IAG's joint venture partners) we estimate that the proportion of connecting passengers is currently 43% on average. By way of comparison, in 2018, 23% of Virgin Atlantic's passengers connected from other flights, whilst the remainder flew direct.

Figure 1: Number of airlines competing on routes flown frequently at Heathrow



Source: Virgin Atlantic analysis. In order to focus on frequently flown routes any routes with fewer than 40 flights in a season were excluded.

Virgin Atlantic's analysis suggests that the creation of a second hub carrier could mean the introduction of competition for a large proportion of routes that are currently only served by one or two airlines. For example:

- The proportion of short-haul monopoly routes flown just by IAG (and its joint venture partners) could fall by 21 percentage points to 34%;
- The proportion of short-haul routes with three or more airlines competing could increase from 1% in 2019 to 24% of routes by 2031;
- The proportion of long-haul monopoly routes flown just by IAG (and its joint venture partners) could fall by 9 percentage points (from 26% to 17%) and the proportion of long-haul flights flown by three or more competitors could increase from 12% to 23%.

In practical terms, we find that a new hub carrier will be required in order to increase competition to any significant degree.

Without a second hub carrier the benefits of increased competition and improved international and domestic connectivity will not be fully realised.

Heathrow is large enough to support effective competition between two home hub carriers

We find there is strong evidence to suggest that an expanded Heathrow could sustain effective competition between two home hub airlines:

- Markets much smaller than London Heathrow, such as Chicago and Madrid, already support two home hub carriers.
- New analysis by the consultancy firm ICF finds that the vast majority of hub airlines operate at a scale of between 10-30 million passengers per year.
- British Airways already carries 38 million passengers per year, and could increase towards 60 million passengers per year if the third runway is built and competition is not prioritised.
- Virgin Atlantic estimate that they could operate as a hub carrier at around 20 million passengers per year, placing them comfortably within the range of the vast majority of hub airlines.

Two hub airlines would also provide much greater resilience for passengers to disruptive events, for example IT failures or strikes.

What needs to change to allow a second hub carrier to emerge?

Delivering a second hub carrier will need decisive action. Heathrow expansion is due to create more than 350 new daily slot pairs, increasing capacity by more than 50%. Virgin Atlantic analysis suggests that a second hub carrier would need to be allocated between a third to a half of that new capacity. However, the first report in this series demonstrated that the existing method for allocating this extra capacity will simply continue the fragmentation of capacity that has already been seen.

This means that delivering the Government's objectives for Heathrow expansion will require a bespoke approach to allocating new capacity. Our report "Ticket to fly: Using the allocation of new capacity to maximise the benefits of Heathrow expansion" compared a number of alternatives and found that an objective-led allocation appears most practical and feasible given existing legislation.

Whatever approach the Government chooses to allocating new capacity, it must ensure that the process results in the creation of a second hub carrier at an expanded Heathrow in order to deliver on competition, choice and connectivity. The approach should provide the framework for the creation of a second home hub carrier, holding approximately 20% of overall capacity at an expanded Heathrow.

Without this, the full scale of potential benefits is unlikely to be realised and a unique opportunity to boost competition, lower fares and improve service and passenger choice could be missed.

Introduction

Context

The aviation sector is central to the lives and prosperity of families and businesses across the UK. It provides the domestic links we need to conduct our daily lives and acts as the routeway of choice for millions of Britons travelling in and out of the UK each year. Its international and economic footprint is also clear; boasting the third largest aviation network in the world and contributing more than £22 billion to the economy each year. More tangibly, it handled some £180 billion of freight in 2017,[2] provides UK businesses with a route to international markets and was the access point to the UK for around 250 million passengers in 2018[3] with over three-quarters of visitors to the UK arriving by air.[4]

Increased competition between airlines at Heathrow would deliver lower prices and more choice, by doing so it will deliver around 90% of the estimated gross benefits of Heathrow expansion.

Ambitions for the future are also strong; the Government's Aviation Strategy aims to unleash the sector's potential and put consumers, competition and choice at the centre of future improvements.

It is clear that expansion at Heathrow is at the heart of delivering these goals. In taking forward Heathrow expansion, the Government has outlined three primary objectives. The first of these is about ensuring an overall increase in competition between airlines at Heathrow:

- **Improved competition:** Increased competition between airlines at Heathrow would deliver lower prices and more choice, by doing so it will deliver around 90% of the estimated gross benefits of Heathrow expansion.[5] As such, this is the Government's primary policy goal.

The second and third objectives are more specific in terms of the sorts of choice and competition that the Government is seeking:

- **Increased international connectivity:** The Government has an objective to "…improve connectivity to international destinations that are currently unserved or underserved". Viewed like this, as well as increasing connectivity, there are also clear links with improving competition (where routes are currently only served by one airline).
- **Increased domestic connectivity:** As with international connectivity, a clear objective of the Government has been to increase the number of UK passengers that can choose to use the UK's hub airport, by boosting connectivity to under-served domestic routes. It has already signalled its intention to "…protect slots to support at least 14 domestic routes".

This report is the second in a series exploring how to make the most of the once-in-a-generation opportunity that Heathrow expansion provides. The first report focussed on the system for allocating new capacity at Heathrow. It highlighted that, to maximise the benefits of expansion, the allocation system should support the creation of a second hub carrier at Heathrow. This report builds on that to demonstrate why a second hub carrier is needed to deliver the increase in effective competition and choice that the Government is targeting.

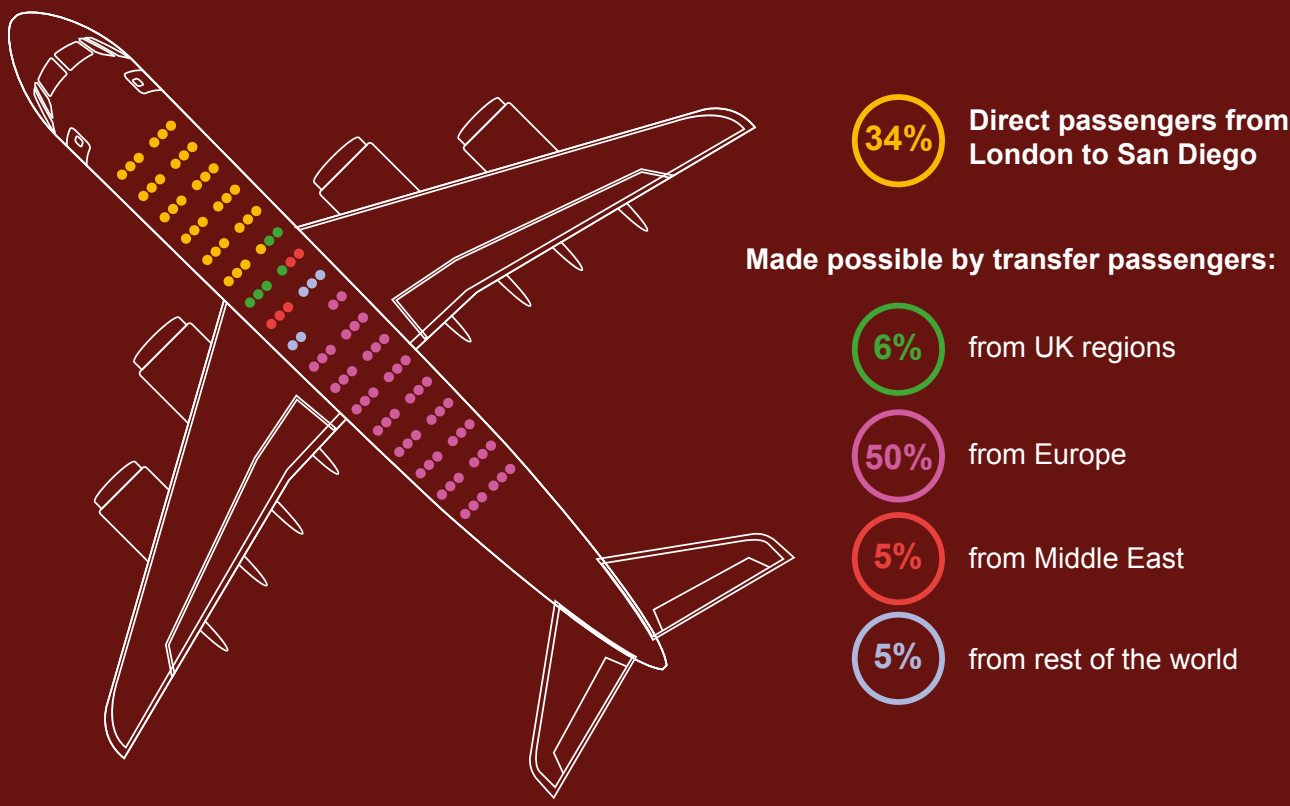
Explainer: Hub airports and hub carriers

Hub airports work by pooling passengers together to create high demand routes. Hub carriers are those airlines that are large enough to benefit significantly from connecting passengers from a wide range of short-haul services through to their long-haul services and vice-versa. They do this by attracting passengers who wish to travel on their network via their 'hub' which may be one stop on their journey elsewhere. By doing so they create economies of scale that bring a number of benefits:

- Airlines need to be able to meet the costs of basing aircraft and staff at the airport and, as the scale of the operation increases, the average of these fixed upfront costs falls;
- Combining passengers from many locations allows airlines to fly larger aircraft that come with lower unit costs;
- The ability to offer more frequent flights to a larger range of destinations.

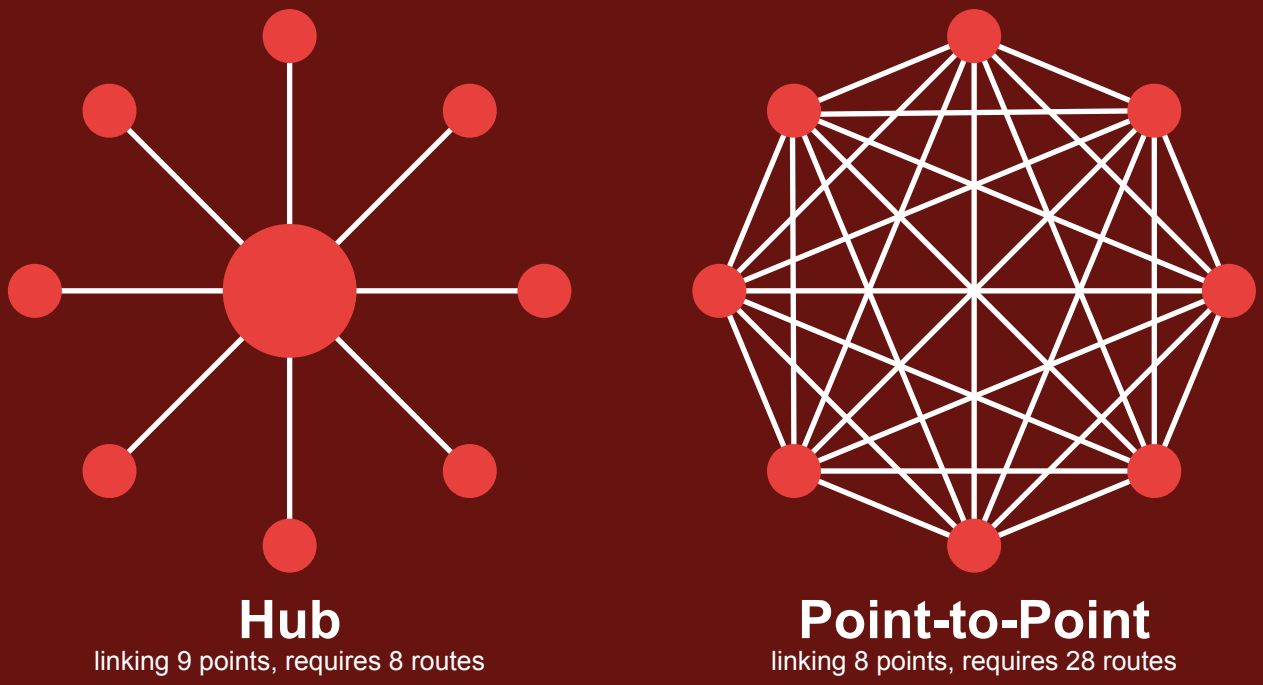
Where competition works well, these benefits make more routes economically viable, increasing connectivity for passengers from a wide range of destinations and reducing prices. Figure 2 shows how passengers transferring on to a flight can increase the financial viability of a route, and figure 3 shows how a hub system dramatically reduces the number of routes required to service eight destinations.

Figure 2: How transfer passengers increase the financial viability of flights



Source: ICF analysis using PaxIS data

Figure 3: How a hub airport reduces the number of routes required



Source: Heathrow Airport

However, while there are many airports where two hub carriers compete with one another (see section 3 of this report), hub airlines may come to dominate their market at the expense of competition. In this circumstance instead of the benefits being passed on to passengers they may instead simply benefit the hub airline (and its shareholders) as they get the benefit of lower operating costs but can charge higher prices to customers due to the lack of competition.

In essence, there are two countervailing forces, with a hub operation leading to a wide range of benefits but passengers only seeing these full benefits if the hub carrier is held in check by strong competition.

Section 1

Airline competition at Heathrow airport.

Section 1: Airline competition at Heathrow airport

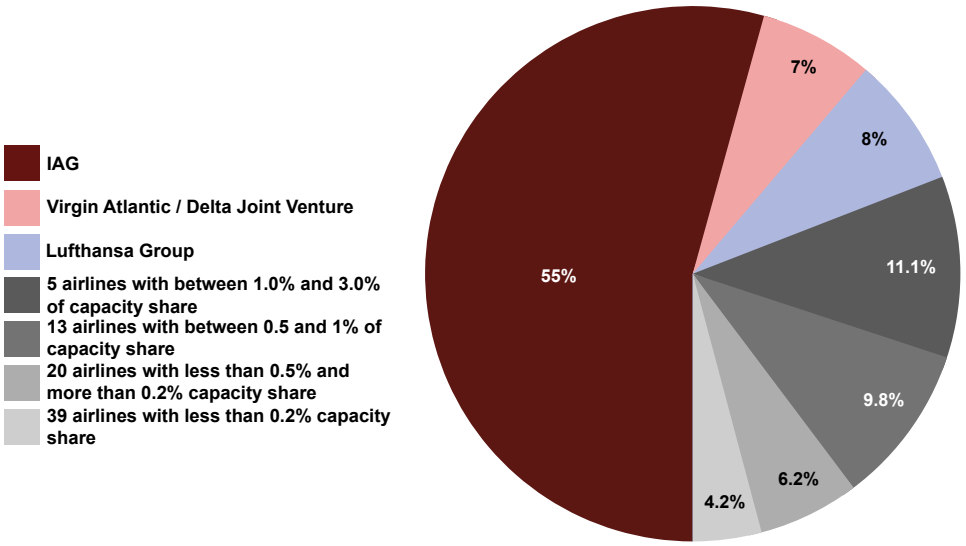
Given the centrality of increased competition to the Government's case for Heathrow expansion, it is important to first assess the extent of competition at Heathrow today. The first report in this series considered this in detail; we give a brief summary here.[6]

Heathrow capacity allocation supports the incumbent hub carrier

In order to use the airport, airlines need to obtain the rights to take-off, land and use the airport's facilities. These rights are encompassed within the concept of "slots", which carve up the airport's total capacity. This means that an airline's ability to compete is limited by the extent to which it can secure slots.

Figure 4 shows how capacity at Heathrow is currently allocated amongst airlines. The UK's existing hub carrier IAG (International Airlines Group), holds around 55% of the overall capacity.

Figure 4: Existing share of total capacity at Heathrow



This is largely as a result of slots allocated to British Airways before it was privatised, which it still holds.[7] This results in one hub airline operating with Heathrow as its base and a fragmentation of the remaining capacity between a large number of airlines with relatively small capacity shares.

Source: WPI Economics, Virgin Atlantic, ICF

This leads to a lack of effective competition

As shown above, a large-scale hub airline can come with passenger benefits. However, some of these are lost when effective competition is weak, and our first paper argued that the fragmentation of capacity shares at Heathrow is indicative of weak effective competition.[8]

A key driver of this is the fact that when one airline develops significant capacity at a particular airport, airlines with smaller capacity holdings are put at a competitive disadvantage. With this in mind, it is little surprise that the Government has already highlighted its concern over "…one airline holding a significant market share at an airport".[9]

This report highlights evidence to show why the Government is right to be concerned about this and shows why a second hub carrier is needed to tackle the existing lack of competition.

Section 2

Why a second hub carrier is needed at Heathrow.

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The incumbent hub carrier enjoys monopoly routes and a hub premium

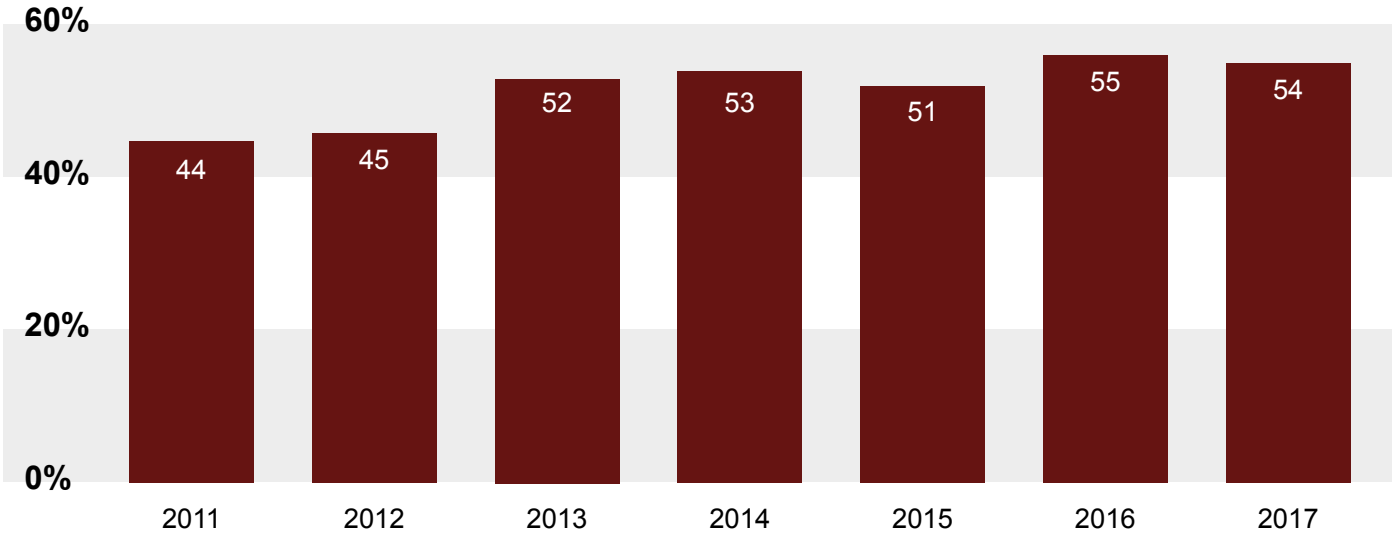
As highlighted above, the Government has been clear that it wants to increase competition between airlines at Heathrow. It has also been specific about the sorts of outcomes that it would like from that competition. In particular, this includes increasing choice for passengers travelling both domestically and internationally.

The need for this is clear. Currently a wide range of routes are served by just one airline (or airline group) including:

- **Domestic routes** such as Glasgow, Manchester and Newcastle
- **Short-haul routes** such as Madrid and Hannover
- **Long-haul routes** such San Diego, Osaka and Accra

Figure 5 shows that overall more than half of routes / markets served by flights out of Heathrow are provided by just one airline (or airline group). This lack of choice on routes has also increased over time; with the proportion of sole-airline routes increasing by ten percentage points over the six years from 2011 to 2017.

Figure 5: Proportion of routes / markets from Heathrow served by only one airline / airline group

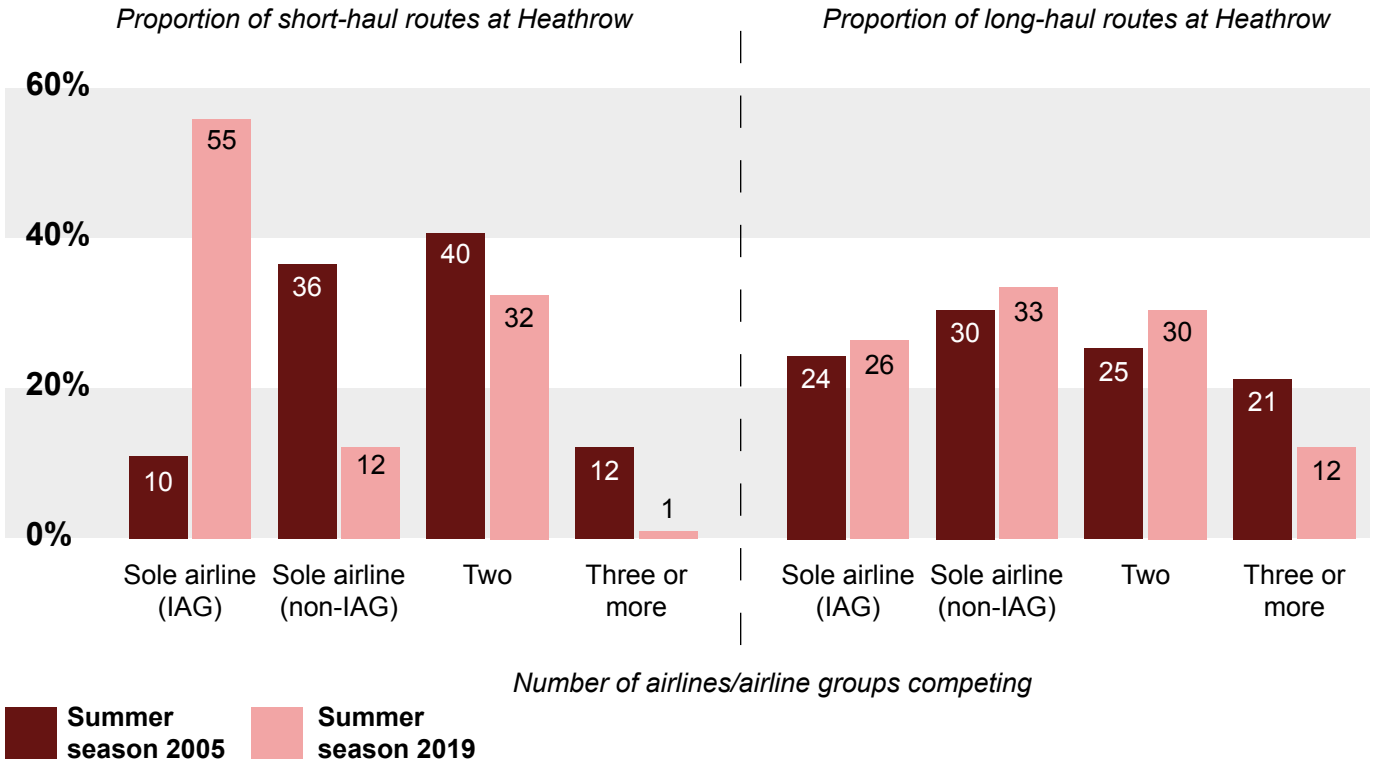


Source: York Aviation

Most of these monopoly routes are flown by IAG and its Joint Venture partners; analysis by Virgin Atlantic of the summer 2019 schedule at Heathrow shows this airline group accounts for almost two-thirds of the monopoly routes at Heathrow meaning that 39% of all routes from Heathrow are served only by IAG and its Joint Venture Partners.[10]

The situation is particularly marked on short-haul routes from Heathrow. Figure 6 shows how competition for short-haul routes has substantially reduced since 2005 whilst competition for long-haul routes has stagnated.

Figure 6: Competition on routes flown frequently at Heathrow in 2019 compared to 2005



Source: Virgin Atlantic analysis. In order to focus on frequently flown routes any routes with fewer than 40 flights in a season were excluded.

On these routes, passenger choice is effectively limited to taking the flight with that airline, not taking the flight, taking a connecting flight or choosing another airport. As well as resulting in significant limits to passenger choice, this type of situation has been shown to lead to higher prices for passengers. In this respect, a range of evidence has pointed to hub airlines, and particularly those with an uncontested position, charging a "hub premium". This comes from two things:

1. **The hub effect:** This is where passengers may be willing to pay more for certain benefits hub airlines are able to offer, in particular frequent flights to a wide range of destinations.
2. **The dominance effect:** This is where an airline facing weak competition on many of its routes is able to charge more to its customers for the same service on hub routes in comparison to travel elsewhere.[11]

The dominance effect is the harmful effect for passengers as, unlike with the hub effect, they do not get anything in return for the higher price. Whilst the scale and routes of this premium vary between studies,[12] its existence and potential for strong competition to reduce it, is clear across the literature.

Box 1: Estimates of the hub premium

Lee and Luengo-Prado (2005)[13] find a total hub premium of 12.2% after they control for passenger mix (as hub airlines may have a higher proportion of passengers in higher paying classes such as business). Lederman (2008)[14] finds a similar total hub premium of 14%, and that a quarter of this is explained by the existence of frequent flyer programmes that encourage passengers to concentrate their flight purchases with a single airline. However, both of these estimates group together the hub effect and dominance effect.

Bilotkach and Pai (2016)[15] sought to disentangle these effects. They find that hub operators enjoy an 8.3% premium on their average yield above other carriers flying from the same hub and that about half (47%) of that is due to the dominance effect. This implies a 3.9% increase in prices due to the dominance effect and if we apply this proportion to the results from Lederman the increase could be as much as 6.6%.

New analysis by the ICF consulting firm looks at this issue from a different angle and comes to a similar conclusion. ICF analysed a selection of ten competed and monopoly hubs in the North American market and found that at monopoly hubs airlines on average make $0.11 per passenger kilometre, whereas at a hub where they face competition, they make around $0.09 per passenger kilometre. This suggests a difference of around 20% which will be due to both the hub and dominance effect.

To illustrate the potential impacts of this we compiled information on the current monopoly routes at Heathrow, excluding those flown very infrequently (less than 40 times over the course of the season). This analysis suggests that during the summer season in 2019 there were 77 IAG monopoly routes from Heathrow. We estimate that 18.5 million passengers flew on them between June 2018 and May 2019, which is 23% of the total 80 million passengers that flew from Heathrow last year.[16] 12.0 million of these passengers started their journey at Heathrow, and although revenue figures are hard to estimate without access to company data, the estimates suggest that IAG may have generated £2.6 billion[17] from just those passengers starting their journeys at Heathrow flying on these monopoly routes.

Combining these estimates with existing evidence on the scale of the hub premium allows us to understand the potential overall cost to passengers of the hub premium.

This shows that, even if only those starting their journeys at Heathrow flying on these routes were affected, passengers could be losing out to the tune of at least £100-£170 million per year.

Passengers could be losing out to the tune of at least £100-£170 million per year because of a lack of competition

The analysis above is based on statistical estimates of aviation travel from Heathrow and not on data collected directly from either IAG or Heathrow Airport. While, there is naturally a degree of uncertainty involved (the literature is mixed on which classes of airline travel the hub premium effects and are not typically directly for Heathrow), this indicates the potential need for action.

Table 1: IAG Monopoly routes at Heathrow – annual (June 2018-May 2019)	
Number of IAG monopoly routes	77
Estimated passengers carried on these routes (total)	18.5 million
Estimated passengers carried on these routes (starting at Heathrow)	12.0 million
Estimated revenue from passenger starting at Heathrow flying on IAG monopoly routes	£2.6 billion

Source: Estimates based on PaxIS data. These figures are based on statistical estimates of aviation travel from Heathrow and not on data collected directly from either IAG or Heathrow Airport.

Many routes are only viable for a hub carrier

The question is then how to increase competition / choice on these routes. In this respect, the CMA argue that

> **"…the most important way of supporting strong competition [at Heathrow] is to allow smaller airlines to be able to grow rapidly to benefit from economies of scale and better challenge the incumbents"**[18]

In practical terms, operating at scale and providing the passenger benefits of lower prices and increased choice will require a new scale operator to be a hub carrier. In simple terms, this is needed because many existing monopoly routes, and new routes in the future, are not commercially viable for a point-to-point operator.

To understand why, we can look to the make-up of passengers on existing monopoly routes flying out of Heathrow. We estimate that the proportion of connecting passengers on the IAG monopoly routes at Heathrow is currently 43% on average.[19]

Put another way, an airline looking to compete on these monopoly routes, but relying solely on point-to-point passengers, would need to fly with planes nearly half empty. It is clear that would not be commercially viable.

Of course, this is just the average; we estimate that eight of the current IAG monopoly routes at Heathrow depend on over two-thirds of connecting passengers, and 79% of passengers on monopoly routes travel on flights that have at least a third of passengers transferring.

Whilst it is possible for point-to-point operators to pick up transferring passengers who have chosen to transfer from connecting flights from another airline, in practice, only a hub carrier is capable of reaching this level of connecting passengers as a matter of course. By way of comparison, in 2018 Virgin Atlantic had 23% of passengers who were connecting from other flights with the remainder flying direct.[20] A non-hub carrier cannot therefore simply increase its long-haul routes to compete with a hub-carrier as to make these routes viable they would also need a significant increase in the number of short-haul routes they offer to increase their proportion of connecting passengers.

Why not a "virtual hub"?

Partnership agreements are often struck between airlines that focus on long and short-haul markets to attempt to gain some of the advantages of hub carriers. However, a full hub carrier has several advantages over these "virtual hubs" shown in the box below, again showing why only a true hub carrier can realistically compete with the incumbent hub carrier in order to both drive lower prices and increased choice for passengers and open up the international connectivity that the Government wants to deliver.

...providing the passenger benefits of lower prices and increased choice will require a new scale operator to be a hub carrier.

...an airline looking to compete on monopoly routes at Heathrow, but relying solely on point-to-point passengers, would need to fly with planes nearly half empty.

43%

Estimated average proportion of connecting passengers for IAG monopoly routes at Heathrow (past 12 months)

23%

Proportion of connecting passengers on Virgin Atlantic flights in 2018

Source: ICF analysis using PaxIS data, Virgin Atlantic

Box 2: The advantages of a full hub carrier versus "virtual hubs"

- Growing new markets through optimising pricing – a hub airline can structure its pricing to incentivise travel from and to different markets, offering discounts on short haul journeys to grow long haul load factors.
- Providing streamlined flight connections - ensuring flight times are designed to minimise layovers and streamlining connecting opportunities between its services.
- Providing better customer service – a hub airline can provide a seamless booking process and customer service arising from full control of the operations.
- Improving frequent flier and corporate schemes – frequent fliers and companies are attracted to airlines that can offer the fullest range of destinations and flights.
- Achieving operational efficiencies - having single ICT and booking systems, as well as maintenance operations, and economies of scale.

A second hub carrier is the only way to substantially increase passenger choice

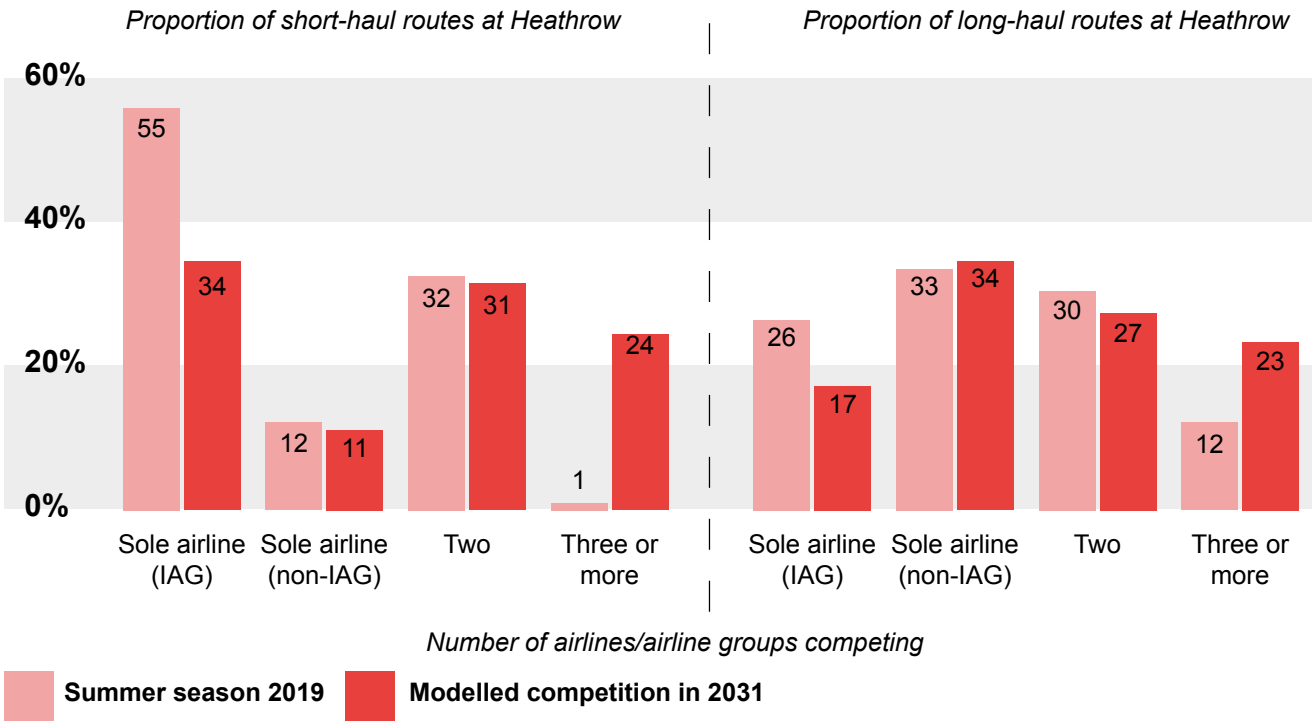
Overall this shows that a wide range of destinations are not viable for smaller operators at Heathrow to enter. Considered in the context of the 77 routes and 18.5 million passengers that we estimate are currently insulated from competition, this is a major concern. And the impacts are not just hypothetical: it reduces choice for consumers, and could increase prices and mean that businesses do not get the quality of service to a wide range of destinations that they should.

Turning this around requires the creation of a second hub carrier at Heathrow. Virgin Atlantic's analysis suggests that the creation of a second hub carrier could mean the introduction of competition for a large proportion of routes that are currently only served by one or two airlines.

For example:

- The proportion of short-haul monopoly routes flown just by IAG (and its joint venture partners) could fall by 21 percentage points to 34%;
- The proportion of short-haul routes with three or more airlines competing could increase from 1% in 2019 to 24% of routes by 2031;
- The proportion of long-haul monopoly routes flown just by IAG (and its joint venture partners) could fall by 9 percentage points (from 26% to 17%); and
- The proportion of long-haul flights flown by three or more competitors could increase from 12% to 23%.

Figure 7: Estimated increases to competition if a second hub carrier is allowed to emerge



Source: Virgin Atlantic analysis

However, this is about more than just numbers. The benefits of a second hub carrier become tangible when the range of routes opened up is demonstrated. To illustrate the type of markets that could be served, we look at three case studies where only a competing hub operator could enter and generate competition over price, frequency and quality of service.

Viewed in this context, it is clear that the opportunities for competition, choice and business and consumer benefits are significant. But delivering this will need decisive action. Virgin Atlantic analysis suggests that a second hub carrier would need to have around 170-220 slots (17-22% of total capacity) at Heathrow. This would mean that the second hub carrier could need around a half of all new capacity generated by the expansion of Heathrow, depending on how many slots they already control.

Case study 1
San Diego, United States

San Diego is consistently rated by the major event management platform CVent in the top 10 US conference destinations[21] and has a population of over 1.4 million people.[22] However, there is currently no competition, as it is currently a monopoly route for IAG and its Joint Venture partners from Heathrow. Currently only 34% of passengers fly direct and the route would not be viable without a significant degree of connecting passengers.

Table 2: London Heathrow to San Diego passenger breakdown

Passengers flying direct	**Passengers connecting from other flights**			
34%	66%			
	Areas where connecting passengers came from:			
	UK regions	Europe	Middle East	Rest of the world
	6%	50%	5%	5%

Source: ICF analysis using PaxIS data

Case study 2
Osaka, Japan

The Kansai metropolitan area, which includes Osaka, has a population that exceeds 20 million, making it one of the largest metropolises in the world[23] and the city was ranked 37th on the AT Kearney Global Cities Outlook Index[24] showing a strong future potential. However, again it is served by only one airline group from Heathrow and has a third of passengers connecting from other destinations.

Table 3: London Heathrow to Osaka passenger breakdown

Passengers flying direct	**Passengers connecting from other flights**			
67%	33%			
	Areas where connecting passengers came from:			
	UK regions	Europe	Middle East	Rest of the world
	3%	30%	0%	0%

Source: ICF analysis using PaxIS data

Case study 3 Hyderabad, India

The capital of the Indian state of Telangana, Hyderabad is a good example of a market where feed traffic is crucial with an estimated 77% of passengers connecting from other flights (mostly from the USA and Canada). Hyderabad has a population of over 9 million people[25] but is again served by only one airline on a regular basis from Heathrow.

Table 4: London Heathrow to Hyderabad passenger breakdown

Passengers flying direct	**Passengers connecting from other flights**			
23%	77%			
	Areas where connecting passengers came from:			
	UK regions	Europe	Middle East	Rest of the world
	2%	6%	0%	69%

Source: ICF analysis using PaxIS data

Section 3

Can Heathrow support effective competition between two home hub carriers?

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Before outlining how a second hub carrier could be created as part of Heathrow's expansion plans, it is important to explore the feasibility of effective competition between two hub carriers at an expanded Heathrow. This rests on two issues:

1. Whether an expanded Heathrow could support two hub carriers. This is essentially a question of the scale of the demand for hub services at Heathrow and whether the creation of two hub carriers would erode the economies of scale of each of the carriers to such an extent that this offsets the gains of increased competition;
2. Whether the creation of a second hub carrier simply creates a new set of monopoly routes, rather than active competition between the two hub carriers on existing and future routes with little competition and future new routes.

Overall, in reviewing other global aviation markets we find strong evidence to suggest that an expanded Heathrow could sustain effective competition between two home hub airlines.

We find strong evidence that an expanded Heathrow could sustain effective competition between two home hub airlines… we would expect a second hub carrier to compete directly with IAG on a large majority of their routes.

Markets much smaller than London already support two home hub carriers

The demand for flights is greater in London than anywhere else in the world, and Heathrow itself remains in the top 10 busiest airports in the world despite the significant constraint on capacity that the lack of a third runway has imposed.[26]

A number of much smaller airport markets around the world already support two hub airlines:

- **Chicago:** With a local market just over one third the size of London, Chicago has accommodated two hub carriers (United Airlines and American Airlines) successfully for many years. Whilst dominated by a vast domestic market, many international services are operated by both airlines.
- **Tokyo:** The third largest aviation market in the world supports Japan Airlines and All Nippon Airways. They both provide competitive propositions for local and connecting demand with further support provided by their respective alliance partners and ongoing developing joint ventures.

- **Seoul:** Whilst outside the top 10 airports by passenger movements, Incheon airport supports hub operations by Korean Airlines and Asiana. Again, the local and connecting markets are often competed by these two large carriers.
- **Madrid:** Whilst the Madrid market is relatively small in the context of London, two hub carriers (Iberia and Aer Europa) co-exist on many long-haul routes supported by their respective short haul networks across Europe providing the much-needed feed on flows focused on South America.

Table 5 shows how the demand for flights in the London area compares to the rest of the top ten cities.

Table 5: Demand for flights – top ten cities, 2017 (million passengers per annum)

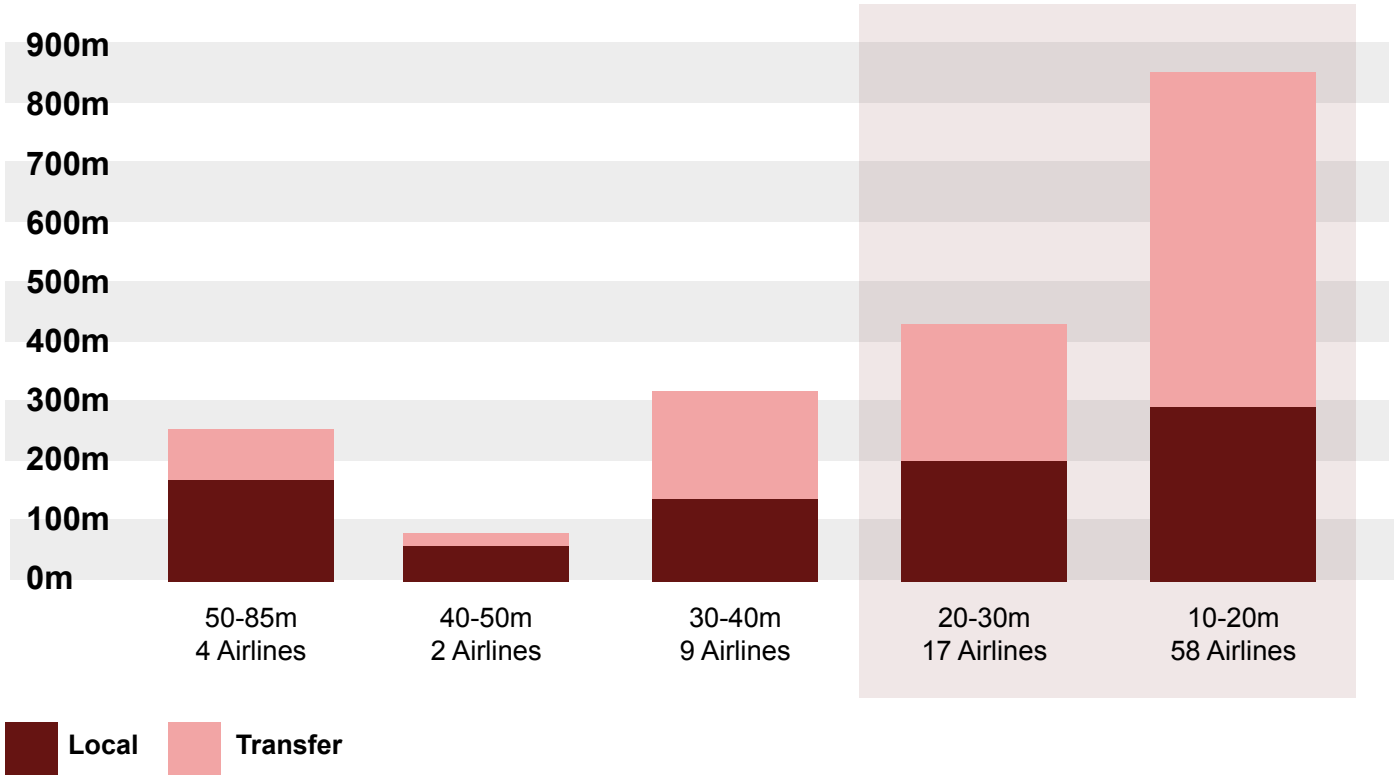
	Demand			
City	**Total**	**Local**	**Outbound**	**Long-haul**
London	171	147	108	39
New York	132	111	75	28
Tokyo	126	103	54	18
Shanghai	112	103	89	11
Atlanta	104	38	24	3
Chicago	102	59	41	6
Beijing	102	93	86	10
Paris	102	75	49	21
Bangkok	99	77	43	10
Istanbul	95	52	34	3

Source: ICF analysis of Airports Council International and PaxIS data

This has been further explored by the aviation consultancy ICF. In order to understand the typical size of hub airlines they analysed all the top global airports, ranging from Atlanta with over 100m annual passengers to airports with around 20 million passengers (for example Washington Dulles, or Brisbane).

This analysis shows that the vast majority of hub airlines operate at a scale of between 10-30 million passengers per year. As shown in figure 8 around 75 airline/hub combinations are found in this category today and combined, they carry over 1 billion passengers each year. At the other end of the scale, just four airlines today operate with over 50 million passengers per year at a single hub, accounting for 250 million passengers per year between them.

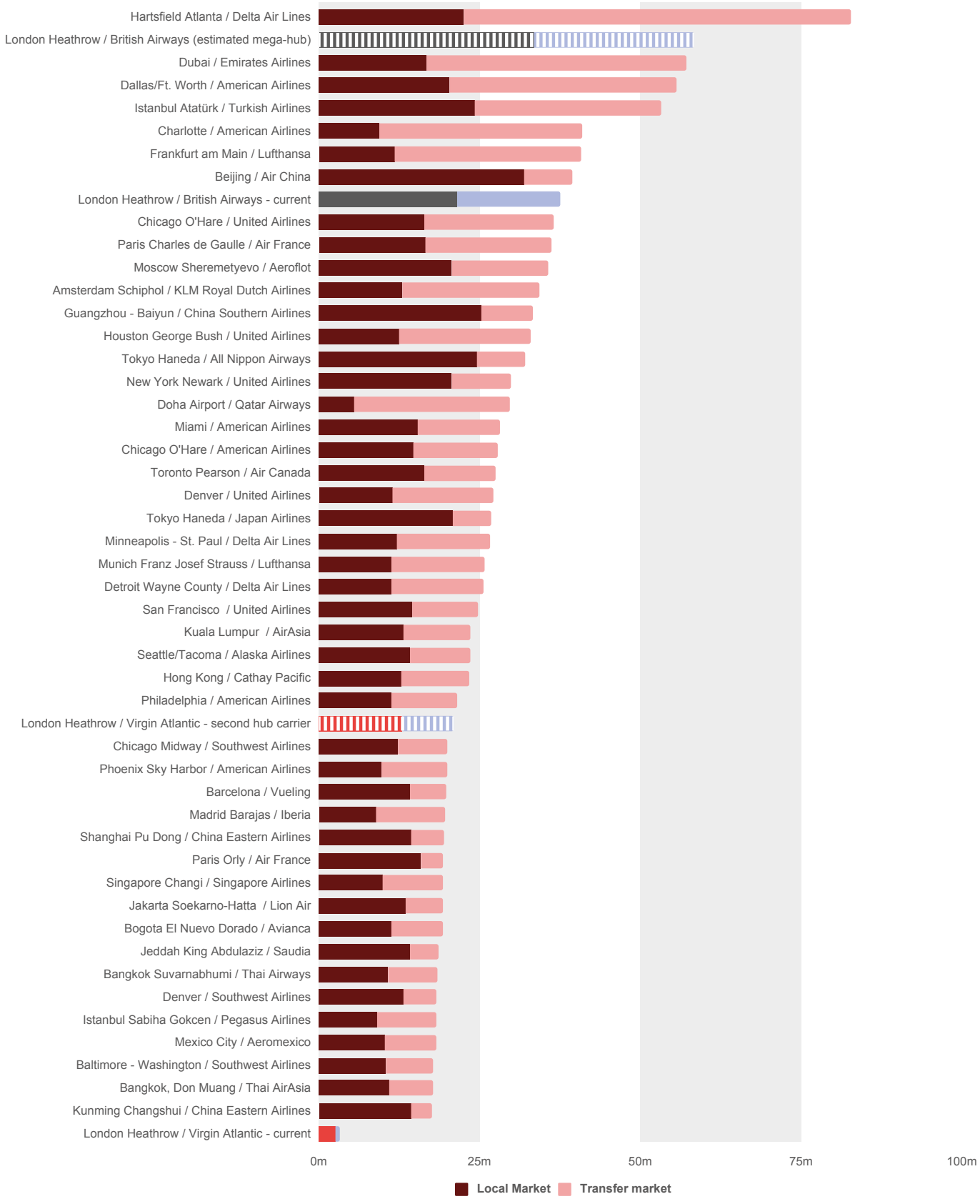
Figure 8: Summary of Global Hub Airlines by Number and Annual Passengers Carried



Source: ICF analysis of PaxIS data

Figure 9 shows the full range of hub carriers. Currently British Airways already carries 38 million passengers per year from Heathrow, and ICF estimate it could become a mega-hub carrier with towards 60 million passengers per year if the third runway is built and competition is not prioritised. Virgin Atlantic estimate that they, or another airline, could operate as a hub carrier at around 20 million passengers per year, placing them comfortably within the range of the vast majority of hub airlines.

Figure 9: Top Global Hub Carriers, local and transfer traffic

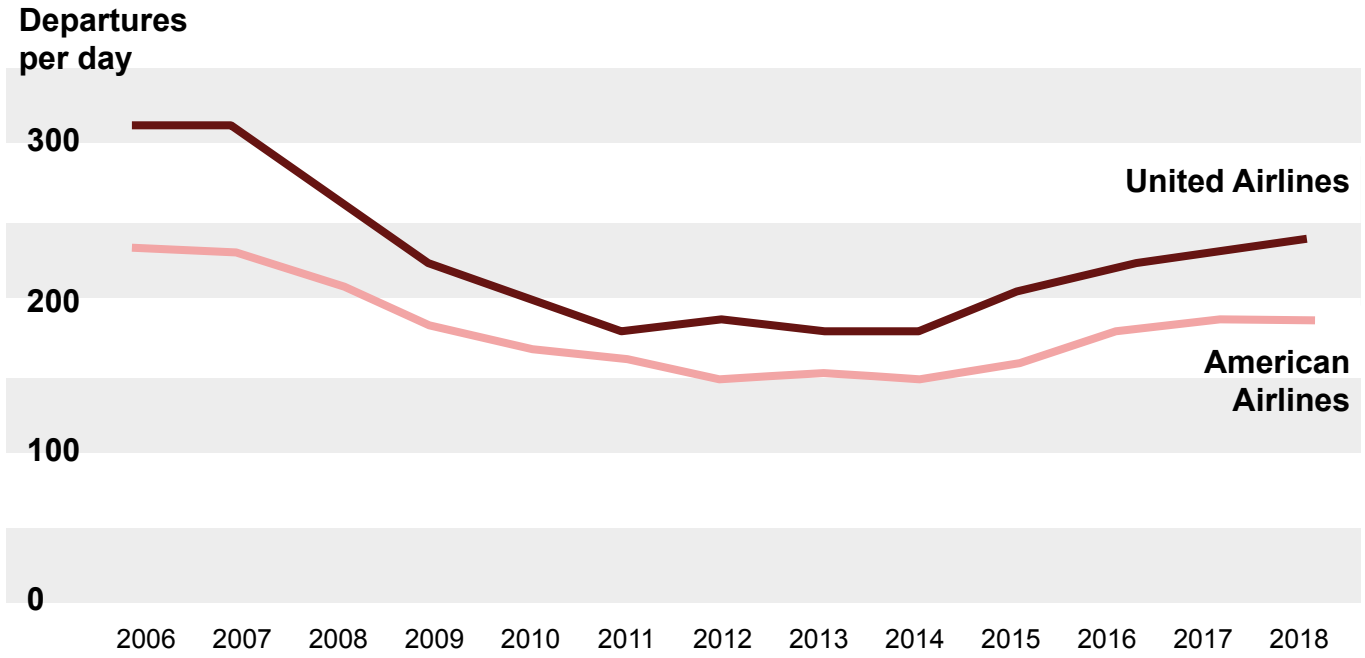


Source: ICF analysis of PaxIS data

Dual hub competition is sustained at other airports

Competition of this type can also be sustained over long periods; the experience at Chicago shows that the two competing airlines have sustained a substantial number of departures per day for more than a decade. They also compete directly against one another on many routes, with current figures showing that on over half of their routes they face direct competition from the other airline.

Figure 10: Sustainable hub competition - Departures per day from Chicago split by airline



Source: ICF analysis of IATA SRS data

Two hub airlines would provide greater resilience

It is also important to recognise that having two hub airlines would increase resilience at Heathrow. Relying on a single hub carrier provides greater inherent risk to the passenger from a quality of service perspective. For example, two hub carriers would be based in separate terminal buildings so the airport would be more resilient to any event that affected operations at one terminal and carriers are also likely to use a different mix of aircraft types which would lessen the passenger impact if there are difficulties with particular aircraft (such as the cancellations caused by problems with the Boeing 737 Max aircraft).[27]

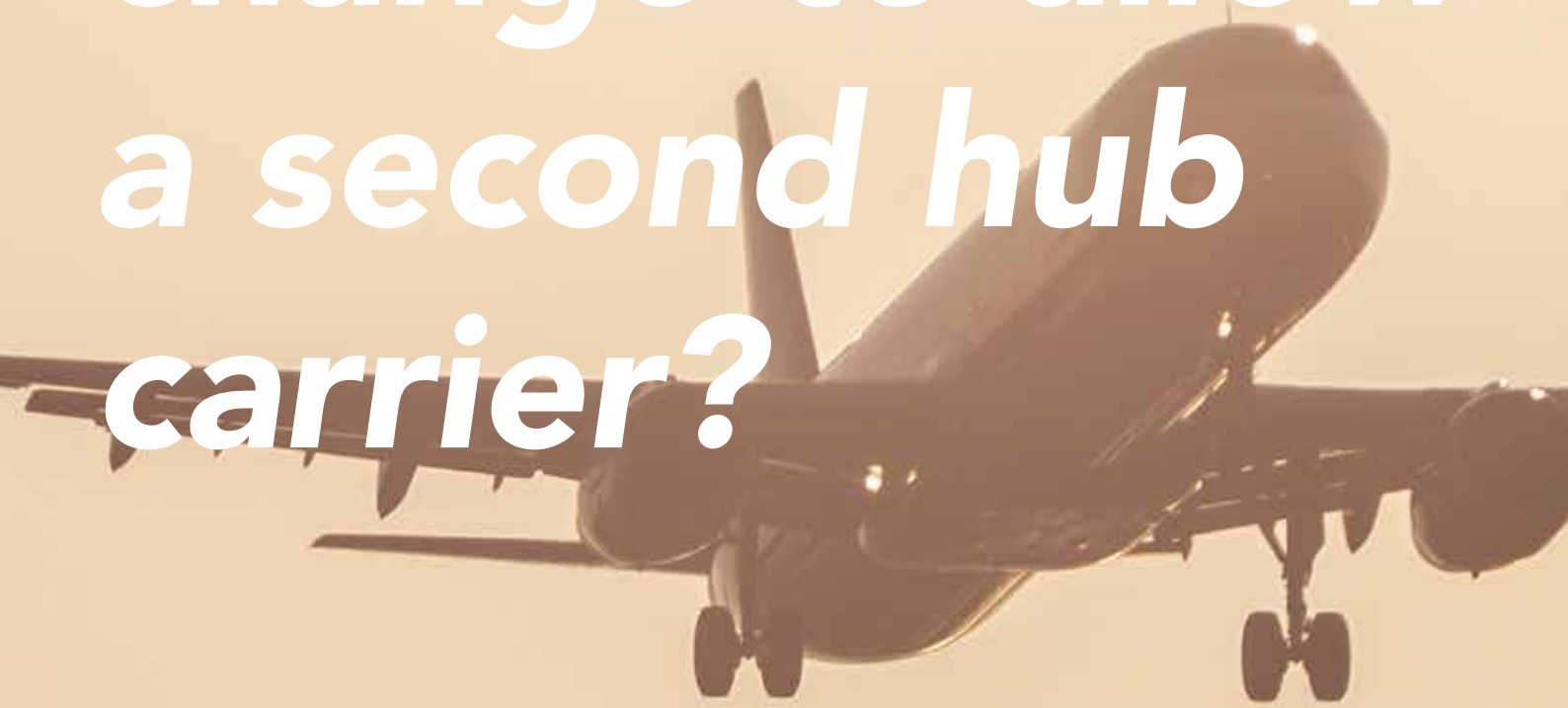
ICF have identified a variety of further factors that can affect an airlines ability to operate such as:

- **IT failure:** Airlines are complex businesses typically relying on a mix of legacy and modern IT systems. Any issue with these systems has the potential to impact an airline's global operations and in some cases grounding flights for extensive periods. These kinds of failures are thankfully rare, but they continue to occur. For example, when airlines have applied software updates, updated/changed IT platforms, this has led to significant system outages.

- **Power:** Carriers' IT/systems and data centres rely on a stable and uninterrupted power supply. If this is cut or interrupted it has the potential to knock out key systems from which it will take an airline a significant amount of time to recover. This could be a system or even human error. Again, although rare, the impact on the passenger is significant.
- **Strikes:** Airlines remain heavily unionised, with recent trends showing further unionisation within the industry. Strikes have and continue to remain a key theme for airlines with ongoing negotiations relating to working practices seeking to improve efficiency at the balance of cost.

Section 4

What needs to change to allow a second hub carrier?



Section 4: What needs to change to allow a second hub carrier?

This report has shown that the creation of a second hub carrier at Heathrow is the most effective way for the Government's stated objectives for Heathrow expansion to be met. Without a competitor who can compete on a like for like basis, the benefits of increased competition and improved international and domestic connectivity will not be fully realised.

Passengers already face insufficient or no choice on many routes. Our analysis suggests that a new hub operation could be achieved only if one or more of the leading challenger operators is allowed to reach around 20% of total capacity at Heathrow. If this is allowed to happen, this operator would have the opportunity to compete for a range of markets that require significant feed traffic and are currently dominated by a single operator. Markets much smaller than London already support two home hub carriers, ensuring passengers benefit from competition over price, quality and frequency of service.

Delivering this relies on the extent to which airlines with smaller capacity holdings at Heathrow, or new entrants, are able to build sufficient capacity share, either now or once expansion takes place.

Can capacity share be increased now?

The challenge here is that Heathrow has been running at close to capacity for many years. Over the last five years, a total of just five new daily slot pairs have been added to capacity, an increase of less than 1% in total slot pairs. This means that airlines have been unable to exert competitive pressure by trying to secure new slots.

Of course, it is also possible that airlines with existing slots give them up and these become available to other airlines. However, in practice, this happens very infrequently; given the capacity constraints, slots are incredibly valuable, and airlines are allowed to keep their existing slots as long as they used them for 80% of the previous period. This means that very few are returned to be re-allocated. In principle, there is also a secondary market for slots, where airlines could seek to build slot shares. However, such trading is relatively rare and, with recent transactions pricing slot pairs as much as $75 million, this presents a significant barrier to entry at scale.[28]

Overall, this means that there have been limited opportunities for airlines to obtain new slots at Heathrow, limiting the growth of competitors.

How could capacity shares increase when Heathrow expands?

Heathrow expansion is due to create more than 350 new daily slot pairs, increasing capacity by more than 50%. As such, this provides a vital opportunity for airlines wishing to build capacity shares in order to provide effective competition to the incumbent hub carrier.

However, the first report in this series demonstrated that the existing method for allocating this extra capacity will simply continue the fragmentation of capacity shares that has already been seen. This finding is supported by a range of other analysis. For example, at the end of 2016, Andrew Haines (the then CEO of the CAA) said:

> **'…the nature of these regulations act in some ways as a barrier to strong competition to big incumbent[s], encouraging a distribution of access across many players who many not have the scale or appetite to present real competition to the big home carriers'.**[29]

Similar conclusions have been made in reports for the European Commission (NERA, SDG) and the Department for Transport (DotEcon) amongst others.[30]

Conclusion: Letting competition fly at Heathrow

This means that delivering the Government's objectives for Heathrow expansion will require a bespoke approach to allocating new capacity. Our report "Ticket to fly: Using the allocation of new capacity to maximise the benefits of Heathrow expansion" compared a number of alternatives. The report compares an objective-led allocation; auctions; and lotteries and finds all three would be more likely to ensure that the expansion at Heathrow meets the Government's stated goals.

An objective-led allocation appears most practical and feasible given existing legislation, but whatever the choice, the Government must ensure that the process results in the creation of a second hub carrier at an expanded Heathrow:

1. To maximise the benefits of the unique circumstances of Heathrow expansion, the Government needs to develop a bespoke approach to the allocation of capacity created by expansion.
2. To deliver on competition, choice and connectivity, this approach to the allocation of new capacity should provide the framework for the creation of a second home hub carrier, holding at least 20% of overall capacity at an expanded Heathrow.

Without this, the full scale of potential benefits is unlikely to be realised and a unique opportunity to boost competition, lower fares and improve service and passenger choice could be missed.

Endnotes

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2 HMRC - via Airlines UK report compiled by Steer on "Assessment of the value of air freight services to the UK economy"
3 CAA International air passenger stats
4 Office for National Statistics, Travel trends estimates: overseas residents in the UK 2018, https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/datasets/overseasresidentsvisitstotheuk
5 DfT (2017) Updated Appraisal Report, Airport Capacity in the South East
6 http://wpieconomics.com/publications/ticket-fly-using-allocation-new-capacity-maximise-benefits-heathrow-expansion/
7 IAG has also been successful in building its slot share through acquisitions (bmi, Vueling and Aer Lingus) and by obtaining unused slots as they have been re-allocated.
8 Note that, in many industries, this sort of fragmentation would be viewed as providing effective competition; however, this is unlikely to be the case in aviation generally and, specifically, for capacity constrained airports like Heathrow.
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