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**Re. Economic regulation of capacity expansion at Heathrow: policy update and consultation (CAP 1658)**

**Introduction**

1. This submission is made by International Consolidated Airlines Group SA (IAG) in response to the CAA's consultation of April 2018 on core elements of the regulatory framework to support capacity expansion at Heathrow (CAP 1658). It represents the views of IAG and its subsidiary airlines: British Airways, Iberia Airways, Vueling, Aer Lingus and LEVEL.

2. This submission will set out the key issues regarding capacity expansion at LHR, before going on to address a number of other points arising from CAP 1658.

**Executive Summary**

3. IAG's key messages that must be addressed are:

    - The CAA must say why its policy prioritises timely delivery of new capacity over all considerations – the relationship with expansion costs must be quantified to allow an understanding of the relative costs and benefits.
    - The current CAA policy simply flags to HAL that if it can "time-out" any alternative providers the CAA will default to HAL's expansion plans – the CAA is circumventing its own policy.
    - The full cost of expansion must be contained within the commitment to keep airport charges no higher than current levels, in real terms – for the avoidance of doubt IAG define that as charges as at the end of the Q6 period in 2019 – not the arbitrary 2016 point as the CAA suggested.
    - HAL transparently attempts to influence Government policy in favour of its ill-conceived expansion plans, somehow concluding that airlines are extracting a fare premium; however, its analysis (which contains numerous errors and other shortcomings) shows that it neither understands the economics of LHR, nor acts like a commercial business.
    - The CAA must ensure HAL delivers on substantive engagement with alternative providers – HAL's Innovations Partners concept does not deliver what the CAA requires.
    - The principle of ex ante capital incentives to manage expansion must not preclude ex post reviews and adjustment.
    - The CAA's interim settlement for 2020 and 2021 must reset the regulatory building blocks, in particular the passenger forecasts, and re-calculate airport charges for those years, so as to return over-recovery to consumers and airlines now, rather than maintaining an RPI -1.5% price path and adjusting the airport regulated asset base in the future.

- The CAA must change course with regard to its policy on allowing HAL to charge consumers and airlines for early expansion costs before HAL secure planning permission – HAL must bear the risk for costs incurred before the DCO decision for expansion.
- The CAA's position on surface access costs, which is to ensure airport consumers only pay a fair share of costs is fair and proportionate. These costs, although unknown at the current time, will be very significant.

**Approach to Affordability and Financeability**

4. The CAA rightly states that a focus on cost efficiency rather than achieving the lowest possible cost scheme "should not be used as an excuse by Heathrow Airport Limited (HAL) to incur unnecessary costs, and airlines should expect to see no more than efficient and appropriate costs reflected in airport charges"[1]. The designation of the National Policy Statement at the end of June saw Parliament approve expansion, despite not having any idea of total costs, and with no back stop in place for when HAL's costs inevitably increase. The CAA, as regulator, must fulfil its role in protecting consumers and preventing HAL rewarding its shareholders (£2.8bn paid in dividends over the past 5 years)[2] at their expense – and that of the UK economy. The CAA must hold HAL to account and ensure that expansion is delivered while keeping charges flat.

5. The CAA is not stepping up to the task and is tacitly signalling that it will allow cost increases to deliver capacity expansion, whatever the cost. This is not a position that consumers can afford or airlines can manage. The CAA repeatedly states that "there would be substantial costs for consumers associated with significant delays to capacity expansion"[3]. If the CAA insists on taking this position then it must substantiate the assertion – what is the "substantial cost", what would constitute "significant delay", in short what is the CAA's assumption on the relative thresholds between cost increases and delay? How much is too much? How does this align with the Government's position that additional capacity is needed by 2030?

6. Currently the CAA's position is to talk tough whilst not taking any definitive stance on these issues. The result is to signal to HAL, as a monopoly subject to regulation, and with a regulator that historically is loathe to sanction for any inefficient costs, that they can increase costs without fear of sanction. The CAA must define what are the "rules of the game" so that HAL is subject to some kind of discipline and the CAA can do its job, to protect the consumer.

7. The CAA is either wilfully misunderstanding or being disingenuous when stating that it notes "the support given by HAL, airlines and the SoS for making sure that airport charges are maintained as close as practicable to current levels"[4]. IAG, and other airlines, did not say that. Our consistent position has been that charges should be no more (i.e. flat in real terms) than the level at the end of the Q6 period in December 2019. That end point for charges is the position that the CAA took and committed to in its 2014 price decision and it should stick to that position. We cannot accept the position of HAL, the SoS and the CAA, that charges should be kept as close as possible to current levels, or more specifically to 2016 levels. That price point is wholly arbitrary, was set at a time when the Airports Commission had not even reported back to Government, and is

[1] CAP 1658 Para 12
[2] https://www.heathrow.com/company/investor-centre/document-centre/annual-accounts
[3] CAP 1658 Para 1.19
[4] CAP 1658 Para 1.1

uninformed in any way by HAL's proposed costs for expansion. We do not support the 2016 charges position and neither should the CAA, which should be sticking to its decision to deliver future airport charges at 2019 levels.

8. Of course, the projected total cost of HAL's masterplan is not the only component of what needs to be delivered within the airport charges commitment. Surface access costs will undoubtedly be within scope, but are currently unknown. If made, the DCO will contain requirements and there will likely be related planning and highways obligations. Any delays to the planning process will also generate additional costs. Additionally, risk overlays all of these cost elements, whether DCO delay, construction price inflation, and HAL management of construction costs. Without a settled masterplan design there is currently no cost baseline to even assess what level of risk should be applied.

9. It is clear that the CAA, in order to facilitate delivery of an affordable expansion, must ensure that HAL holds its costs down and also leaves the necessary headroom within the commitment to keep charges at current levels for these additional costs. Whilst the size of these costs is unknown their existence is known. It will not be acceptable for HAL to deliver its expansion masterplan within the "current" airport charges level and then claim that additional surface access costs, DCO requirements and planning obligations and planning process delays are outside of that commitment. They are not and the CAA must hold HAL to account and protect consumers.

10. HAL relies on an unsupportable and self-serving report it commissioned from Frontier Economics, which is a transparent attempt to influence Government policy in favour of its ill-conceived expansion plans. Its material conclusion seems to be that in 2016 airlines were extracting a fare premium of £59/passenger, because of the capacity constraints at LHR. Aside from a general lack of rigour, the report contains numerous errors and other shortcomings; however, it clearly illustrates that HAL neither understands the economics of LHR, nor acts like a commercial business.

11. Commentary of the report is in an appendix to this submission[5]; however, it should be well noted that LHR needs a developer that is not content to ruin airlines' businesses, but rather one that will deliver what they need, in order to provide the service quality passengers need, at a price for which airlines can deliver it. This does not appear to be HAL – and so long as the CAA fails to hold it accountable, it is inevitable that HAL will continue the same damaging behaviours.

12. HAL will always minimise its actual weighted average cost of capital (WACC) and its current gearing is much higher than the CAA's regulatory assumption. In setting a return on the regulated asset base (RAB), the CAA must take account of HAL's performance in Q6; particularly its ability to gear-up through large quantities of investment-grade debt.

**Initial assessment of affordability and financeability**

13. The CAA notes that IAG and other airlines have "retained a sharp focus on affordability and regard it as a key indicator for success"[6]. Any airline must focus on costs and affordability: that is the ultimate commercial reality of the market that airlines operate and compete in at Heathrow,

[5] Appendix A
[6] CAP 1658 Para 2.2

across London and the UK, and beyond. Today the airport charges levied by HAL, and allowed for by the CAA, make Heathrow Airport the most expensive airport in the world for consumers and airlines. Against this backdrop, and with our experience of HAL's unwillingness to manage costs, the scale of expansion dictates that our focus must be on affordability. These are real-world commercial concerns to which airlines are rightly subject, because of consumers' focus on airfares, and so the level of airport charges, over which airlines have no control, is a component of price that we are highly incentivised to manage, on consumers behalf. This focus must not be reduced to an impression that airlines are penny-pinching, rather it is airlines operating in a competitive market and reflecting the needs of that market.

14. The CAA's approach to financial modelling has so far been supported by IAG and as such both British Airways (BA) and IAG have engaged with the CAA and their consultants to help development of the model. However, we have significant concerns around HAL engagement and how the CAA will use the model. In our view HAL is not fully buying into the CAA model being the basis for evaluating expansion scenarios, making regulatory policy decisions and informing the setting of airport charges. HAL has repeatedly asserted that their own models should be used. This does not fit with the CAA's aim for how this model would be used as a "single version of the truth" accessible to all stakeholders and is indicative of HAL's dismissive attitude towards the CAA as the regulator. The CAA must be strong on this topic and confirm to HAL and other stakeholders that their model will be the only model used to make policy decisions and set airport charges.

15. The CAA committed to share the latest version of the model with updated HAL Westerly Option data that informed the analysis of the illustrative expansion affordability scenario that is referenced in CAP 1658. We do not believe this has been shared yet and IAG expects the CAA to share the latest version of the model with this Westerly Option scenario analysis as promised.

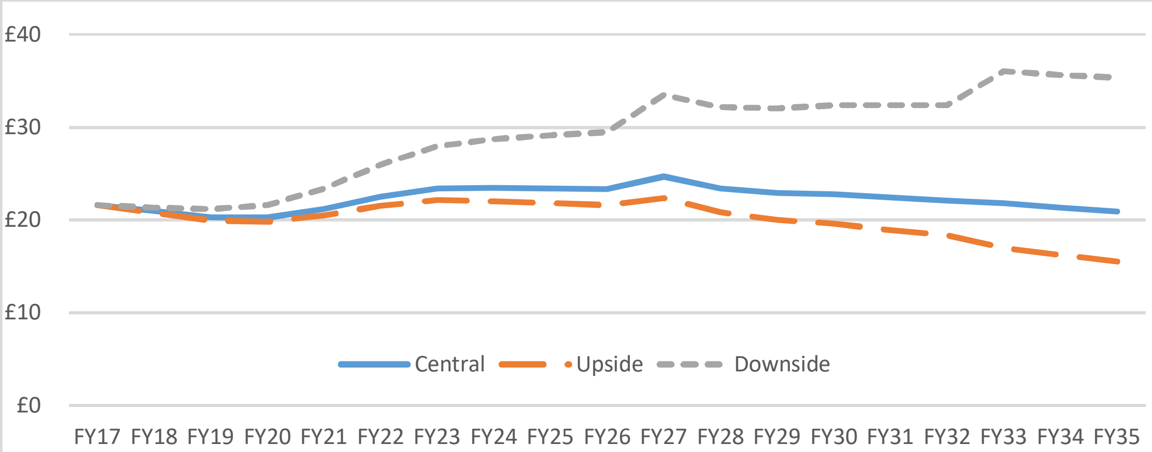
16. The CAA's illustrative Westerly Option scenario[7] has a sensitivity where a slower build out would drive charges higher than current levels. Notwithstanding the fact that this assumes airport charges at 2016 levels, which we disagree with, the CAA cites three mitigations that could be deployed to avoid higher airport charges. The first of these is HAL "management action to mitigate the risk of capex and opex increases"[8]. Experience of HAL's actions in this area is to delay and de-scope evidenced by delivery of T5 and T2 which HAL cites as examples of being delivered on-time and on-budget but included smaller than planned terminal buildings (T5C, T2A), and key infrastructure being removed from scope entirely (T2 baggage system, T5C transit platforms, T5 lifts) until they are paid for, a second time, at a later date by airlines who need them to serve their passengers. Expansion is an order of magnitude greater than these terminal development projects that HAL has overseen in the last 15 years and our experience is that HAL is incapable of mitigating capex and opex increases.

17. Further to the CAA's illustrative analysis presented in CAP 1658 the Heathrow airline community, including BA, have used the CAA H7 financial model to conduct our own expansion affordability modelling. The output from this work is fully detailed in the joint AOC-LACC response to CAP 1658. In summary the airline community assessment modelled three scenarios[9] as shown in Figure 1 below:

[7] CAP 1658 Chapter 2
[8] CAP 1658 Para 2.13
[9] Affordability scenarios detailed in Appendix B

- "Central case" – based on data available at present
- "Upside scenario" – lower costs and faster passenger growth than in central case
- "Downside scenario" – higher costs and lower passenger growth than in central case

***Figure 1 – HAL Westerly Option scenarios - Unprofiled price per passenger (£)***




Source: AOC/LACC response to CAA CAP 1658

18. The initial modelling shows that there is no scenario that currently complies with a strict interpretation of the airlines definition of affordability. The "upside scenario" and "central case" scenarios indicate that whilst the affordability goal can be partially met these remain unaffordable. Furthermore, the "downside scenario" shows that the current expansion plan could drive significant increases in airport charges rising to £30 per passenger prior to runway opening and continuing to increase further as new capacity comes in to use peaking at £36 per passenger in 2033. As such there are currently no scenarios that deliver affordable expansion at Heathrow. Furthermore, these Westerly Option figures do not include wider surface access costs which would add to the expansion bill. This underlines the challenge that both HAL and the CAA face to deliver expansion affordably.

**Evolutions to the Regulatory Framework**

19. Whilst the CAA has developed its policy in relation to the alternative commercial and delivery arrangements and placed clear expectations on HAL to engage with third parties it is at the same time effectively undermining the process with its position that it must prioritise "the timely delivery of capacity expansion"[10] in order to protect the interests of consumers. Despite stating that HAL "not following up appropriate opportunities may provide evidence of inefficiency"[11] the CAA is clearly signalling to HAL that it will favour them over alternative providers that cannot keep pace with the HAL expansion planning process and ultimately provide capacity as quickly as HAL claim. Therefore, from a HAL perspective, with a vested interest in keeping alternative developers at arms-length and protecting its monopoly position, slow, partial or non-engagement with alternative providers is an assured way to "time out" competition. This comes back to the issue of the CAA detailing what constitutes timely delivery[12] and what the threshold is between cost and timeliness. The current CAA position effectively prioritises, as a minimum, timely delivery over any

[10] CAP 1658 Para 3.13
[11] CAP 1658 Para 3.4
[12] Para 5

cost consideration. This needs to be addressed otherwise any moves to allow alternative providers to enter Heathrow will be compromised and allow HAL to circumvent the CAA's policy.

20. IAG does not consider the HAL Innovation Partners concept as in anyway addressing the more substantive requirement to explore the introduction of competition and alternative providers. Whilst IAG has registered concepts itself under this scheme at a substantive level this process is not the right one to draw in full competition, as illustrated by the Arora Group proposal. HAL has clearly stated that the Innovation Partners concept is not about anyone other than HAL building and operating an expanded Heathrow therefore the whole scheme is simply a procurement exercise, an exercise that any commercially-minded company would undertake as normal business practice in finding new ways to deliver products more efficiently. It is instructive that HAL view this as a new concept rather than business as usual. Whatever, the CAA must not deem the Innovation Partners concept alone as HAL meeting the challenge of engaging with third party providers. Improving procurement does not meet the wider and more substantive challenge of changing the bounds and structure of how HAL and/or alternative providers should deliver expansion more broadly. Effectively, HAL is attempting to subsume competitors into its own supply chain, with the CAA's blessing.

21. IAG has not seen evidence of substantive engagement between HAL and the Arora Group. Whilst requiring HAL to engage and share planning material already paid for by consumers and airlines is welcome, this is not in itself progress. The CAA states that it wants HAL to "not only stand(s) by its public commitment to engage, but also to do so in a proactive, timely and constructive way, thinking more broadly about alternative commercial and delivery arrangements"[13]. The type of information required by third parties will include work undertaken as Category B costs, for example relating to planning advice and consultants for master planning; environmental and sustainability advisory and consultancy; architectural, structural and engineering design; and surveys on land, surface access and engineering design[14]. To date HAL has simply referred third parties to generic information on its consultation website as opposed to providing the specific information required. We await progress in this area from both HAL on engagement and from the CAA in starting to address the issues raised around timely delivery and ensuring HAL engages in good faith and provides information to allow third parties to discuss and develop alternative commercial proposals.

22. IAG welcomes the prospect raised by the CAA that HAL should engage in order to avoid "unnecessary and potentially difficult regulatory interventions" and cites arrangements such as Ofgem's "Competition Proxy" model. The CAA should share their emerging thinking on how it would develop its policy and regulatory options in this area, which would clearly mark a shift in how the CAA regulates HAL in an expansion world where the RAB will be more than doubling in size.

23. On the more detailed guidance that the CAA puts forward for Enhanced Engagement and how HAL should work with alternative providers, IAG broadly supports the elements such as only matching the level of detail provided by HAL at the CON1 stage, not discounting alternative solutions because they do not meet the National Policy Statement requirements, working with alternative

[13] CAP 1658 Para 3.21
[14] CAP 1513 Para 3.11

providers to solve problems together, sharing planning information funded through Category B costs as well as RAB and statutory account information, and requiring HAL to clearly demonstrate the costs and benefits judgments made in relation to their own and alternative providers plans[15]. IAG also strongly agrees with the CAA's statement that "in respect of its commercial incentives, HAL should be mindful that, given its market position…it cannot expect to put its own narrower interests ahead of those of consumers"[16]. However, for the reasons outlined above IAG does not believe that the CAA's statements are being backed up by its actions and that, as a consequence, the process favours the HAL monopoly over the introduction of competition.

24. In this regard, we consider that the CAA should encourage competition through the imposition of a condition whereby if a third party can evidence that it can deliver an element of the project (such as a terminal) for a lower price than HAL, HAL can either elect to enter into a commercial agreement with that third party or, in the event that it does not, HAL can only recover costs equivalent to the alternative scheme.

25. The imposition of such a condition would be consistent with the CAA's duties and powers under the Civil Aviation Act 2012 (CA Act). For example, the CAA has a duty to carry out its functions in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services. Further, the CAA must carry out its functions in a manner which it considers will promote competition in the provision of airport services and, among other things, must have regard to the need to promote economy and efficiency on the part of each holder of a licence (section 1 of the CA Act).

26. We also note that section 19 of the CA Act provides that a licence must include such price control conditions as the CAA considers necessary or expedient having regard to the risk referred to in section 18(1)(a) (relating to an abuse of substantial market power). This duty is subject to the provisions in the CA Act about the conditions that may be included in a licence. Section 18 contains broad powers to impose conditions, with section 21 including examples of the types of conditions that can be imposed. One of these examples is a condition requiring the holder of a licence to enter into a contract or other arrangement.

**Cost of capital and incentives**

27. IAG welcomed the PwC report on an early assessment of the WACC and potential indicative ranges going forward into the H7 regulatory period. It is clear that since the CAA's last WACC determination in 2014 for the Q6 period that the market has moved and that this has been recognised by other UK regulators in their decisions.

28. Despite this being an early and preliminary assessment to inform a price control decision that is at least three years away the strength of HAL's reaction comes as no surprise. The HAL statements that "the returns described in the PwC report will not allow investment under today's framework", their point blank opposition to any prospect that investor returns could be at a lower level set by the CAA, whilst consumers and airlines pay through the nose for expansion, and their view that "the CAA is prejudicing its assessment…by adopting an approach that states the WACC should be

[15] CAP 1658 Para 3.26
[16] CAP 1658 Para 3.28

the minimum expected return" is nothing other than a blatant attempt to intimidate the CAA at the first sign of any potential movement on the WACC.

29. Clearly HAL believes that the CAA is weak and can again be bullied into a position unsupported by evidence. Moreover, it clearly demonstrates that HAL places returns for investors ahead of any other consideration. The CAA must not allow HAL to intimidate it into considering a WACC that is higher than the market indicates, is higher than that set by other UK regulators, and sees consumers and airlines paying an even higher price for expansion at what is already the most expensive airport in the world. Investors are queuing up for the opportunity to participate in such a safe and well-rewarded scheme.

30. The proposal for the CAA and HAL to work together to resolve the "significant uncertainties in estimating the cost of capital"[17] has been noted by IAG. No doubt this work will be undertaken in a fully transparent manner and the CAA must involve airlines in this.

31. The CAA's analysis of proposed ex ante capital incentives suggests these could be used as part of the regulatory approach on expansion. In principle IAG supports rigorous ex ante capital incentives, i.e. determining costs up-front and then having a mechanism whereby HAL retains a proportion of underspend or are penalised with bearing a proportion of any overspend, but in practice the approach will have to be correct for them to be effective.

32. Firstly, all costs must be subject to Independent Financial Surveyor (IFS) review for both ex ante and ex post review. As part of this approach the CAA should make the determination of the IFS binding. This is essential to ensuring the system is fair and transparent and operates as a standalone process without becoming part of any wider regulatory considerations.

33. Secondly, in the event of an overspend the use of an ex ante incentive must not preclude subsequent ex post review by the IFS. For instance if a component of expansion overspends by £100 million and a 40% capital incentive is automatically applied then HAL would be penalised by £40 million. However if subsequent ex post review determines that the overspend was due to HAL inefficiency and that more than the £40 million should be recovered then the CAA must be able to recover that additional sum. In this way the ex ante capital incentives are part of a wider package of measures to ensure that consumers do not pay the price for failures to control costs.

34. Thirdly, the CAA should model a "strong" ex ante incentive alongside their analysis to date of the impact of "weak" and "moderate" incentives on HAL's return on regulated equity (RORE). The CAA analysis shows that potential capital incentives placed on HAL would be consistent with other regulated sectors with a capital RORE incentive packages within a range of 3-5%. However, as part of a total RORE incentive package (i.e. capital plus other non-capital incentives) other sectors sit in a range of 6-10%. Taking into account, that other regulators have the benefit of generating regulatory competition between multiple regulated utility companies whereas the CAA face one single monopoly the analysis should also cover "strong" incentives in case there is a limitation to the size of non-capital incentives that can be placed on HAL.

[17] CAP 1658 Para 4.15

35. IAG notes that the CAA also proposes applying incentives for the timely delivery of new capacity[18]. We have already raised issues with the CAA's position as regards "timely delivery" and quantifying what the relative thresholds are between cost and time. When the CAA proposes any incentives it will clearly have to substantiate those with an assessment of the cost-benefit analysis of what timely delivery is actually worth to the consumer.

**Interim arrangements to apply after the end of the Q6 price control**

36. The fullest protection that consumers and airlines have from HAL's monopoly power is for an effective regulator to conduct a full review at regular intervals to ensure that consumers are not being taken advantage of. In the case of Heathrow regulation the CAA is meant to review HAL every 5 years.

37. The focus on expansion has led the CAA to propose a series of extensions to the current Q6 price control period, firstly for 2019, then for 2020, and now through to the end of 2021. In the case of the third extension year for 2021 the CAA's stated rationale is to align the DCO decision on Heathrow expansion, due in Summer 2021, with the CAA's decision for the next full regulatory review of HAL (the H7 period), now also due in mid-late 2021. However, this alignment relies wholly on the DCO decision for Heathrow expansion being made in Summer 2021 as planned and without any delay. The CAA themselves state that if there is any delay a fourth extension year taking the Q6 period into 2022 may well be necessary[19]. IAG believes it is highly likely that the DCO decision will be delayed due to legal challenge, HAL planning progress and the DCO process and approval. A fourth extension year is therefore a highly likely eventuality.

38. The net result is that the series of extensions proposed to the Q6 period will mean that consumers and airlines are not receiving the protection that a full regulatory review of HAL would provide. In effect a regulatory decision formulated in 2013 and implemented in 2014 will still be in place in 2021, and potentially up to the end of 2022. HAL have over-recovered by more than £400m so far in Q6 from April 2014 through to December 2017. This over-recovery in excess of £100m per year will continue up until the end of 2019 and potentially beyond that pending the outcome of the CAA's building block review.

39. It is clear that key elements of the price control are out of date – passenger forecasts have been exceeded substantially, the WACC would be lower if it were set today, yet we are faced with a 9-year period without the CAA fully reviewing HAL – a position with which HAL, and its investors are no doubt very happy with, in contrast to consumers, and airlines, who are paying the price. This is the context for the debate on interim arrangements for the Q6 price control extensions.

40. IAG's position on the proposed reset of the regulatory revenue building blocks for the 2020-2021 period are:

    a. <u>Passenger forecasts</u> – we support the CAA position, that this must be re-forecast taking into account actual Q6 performance to date. However, we are concerned that the HAL forecasts for 2019 assume an economic shock and are lower than today. From a BA perspective, there is already a strong base of bookings for 2019 which indicates a short-

[18] CAP 1658 Para 4.27
[19] CAP 1658 Para 5.35

term likelihood that passenger numbers will remain strong. Equally, HAL has successfully re-structured airport charges in 2017 and 2018, which has increased traffic, as was its stated objective. So, this is blatant gaming on HAL's part and the CAA must ensure that passenger forecasts are grounded in reality and reflect the short-term period they will be made for, as opposed to the more medium-term assumptions applied to a 5-year price control review.

b. Weighted Average Cost of Capital – we support the CAA's proposals to update corporation tax and cost of debt inputs to the WACC calculation. However, we oppose HAL being able to place any expansion capex on the RAB until the DCO is secured and the next period, H7, begins. It is notable from the HAL forecast that it will spend as much on expansion in 2020 and 2021 as was planned to be spent over the whole original Q6 period, and once admitted to the RAB this £3 billion[20] will all be subject to an out of date WACC that is considerably overstated. The CAA raises the prospect that any substantial capital spending HAL undertakes between getting a DCO decision and the start of the next H7 price control period should be subject to the H7 price control conditions rather than Q6[21]. The CAA should apply this approach to all expansion capital expenditure incurred before the next regulatory period starts. HAL should not be allowed to enjoy the financial benefit of incurring expansion costs under the Q6 price control conditions and WACC. The Q6 price control was not set with expansion in mind, and even with the review of cost of debt this does not cater for the fact that this volume of debt can be covered at a much lower cost.

c. Operating Expenditure – IAG supports the CAA position to update these forecasts.

d. Commercial Revenues – IAG supports the CAA position, but is opposed to HAL's forecasts showing decline in growth. These revenues have been growing since 2014 and we expect that to continue in line with passenger growth. Again, this is HAL gaming.

41. IAG does not agree with the CAA's proposals to maintain an RPI -1.5% price path in 2020, review whether that price path should also apply in 2021 and then return any HAL out-performance by adjusting regulatory depreciation on the RAB in future years. Rather, the CAA should re-set the regulatory building blocks as above, calculate the airport charge and apply those in that year. This will effectively generate charges below an RPI -1.5% price path and therefore return money to airlines and consumers immediately without adjusting depreciation on the RAB and returning it over a longer period.

42. IAG is opposed to any HAL over-recovery in 2020 and 2021 being used to pre-fund an expansion programme that will not have secured a DCO decision at that point in time. Rather than being used to pre-fund expansion, over-recovery must be returned to consumers and airlines, before the new runway starts operation, so those who have paid excess charges are fully re-imbursed. The early period of expansion, prior to runway opening, will have the highest level of capital expenditure without the benefit of additional capacity and so airport charge levels will be under the greatest stress. So, over-recovery by HAL should result in these funds being used to mitigate upward pressure on airport charges in this period. If HAL does introduce additional movements at

[20] CAP 1658 Appendix D, Para 14, Table D.4
[21] CAP 1658 Para 5.13

Heathrow in advance of the new runway then airlines will be able to use this to fund new aircraft, staff and products to provide those new services for consumers.

43. IAG does not have a strong preference on the proposed H7 price control review timeline options presented by the CAA. HAL must start the H7 process with the most mature and meaningful Initial Business Plan (IBP) possible. Bearing this in mind IAG does not believe that this will be possible by July 2019 as this may not fully take account of the output of CON2 which ends in April 2019. Therefore, a late 2019 IBP would appear to be the more credible option, consistent with Option 1 put forward by the CAA.

**Early Category C costs**

44. IAG remains absolutely committed to the principle that any early expenditure on expansion before the DCO is made - Category C costs – should be at HAL's risk, rather than that risk being passed to consumers and airlines. To be clear IAG is not saying that HAL should be precluded from incurring costs pre-DCO and neither are we saying that once DCO is secured that those costs should not be submitted to the RAB – all we are saying is that HAL must bear the risk of its decision in the same way that individual consumers and competitive businesses do on a day-to-day basis in the real world.

45. IAG does not believe that the CAA's actions are consistent with its duty to protect consumers. Effectively removing all risk from HAL for up to £670 million of forecast expenditure – which could well increase if the DCO decision is delayed further – means there is even less discipline required to bring forward and manage costs. The ultimate reality for consumers is that if HAL fails to obtain a DCO they will still be expected to pay the airport over £670 million for absolutely no benefit at all – this is the reality of the current CAA policy, which fails consumers and airlines, while placing HAL under a reduced incentive to succeed first time:

> "We remain of the view that properly justified early Category C costs that are to be incurred in a way that is clearly in consumers' interests should be recoverable, **even if HAL's DCO application were to be <u>rejected</u> by the SoS as part of the planning process**"[22] [**emphasis** added]

46. With the chequered history of political support – the Labour Party officially opposes Heathrow expansion - and planning policy in the UK there is effectively no knowing the eventual outcome of HAL's DCO application. The CAA is letting HAL spend consumers money with no guarantee they will get anything for it. The CAA should make HAL bear the costs at the risk it chooses to, until the DCO is made.

47. Our subsequent comments on the CAA's proposals on early Category C costs are only made because the CAA appears intent on ignoring the clear and repeated objections we, and others, have made in relation to the CAA's policy allowing HAL to incur costs and add them to the regulated asset base and charge consumers for them before they've got a DCO.

48. The CAA should revise its proposals for governance of commercial compensation costs. The governance of these costs should be subject to pre-agreed criteria that will be used to determine whether costs have been incurred efficiently or not and then be applied consistently to all costs.

[22] CAP 1658 Para 6.16

The process for selecting the CAA appointed expert should be open to comment by airlines. A full, rather than summary report, should be shared with and then be presented to the relevant airline engagement group by the expert so the airlines can ask questions of the expert. The airlines should then be afforded an opportunity to give their views to the CAA on the apparent efficiency of the negotiation and outcome at the same time as HAL can present its efficiency evidence to the CAA. The CAA decision should then reference the various views from the expert, HAL and airlines. For other enabling costs, which is the largest element of forecast early Category C costs, IAG agrees that the CAA will likely need specialist expertise to inform their treatment of these costs[23].

49. Ultimately early Category C costs will only be able to be brought forward and be subject to an efficiency test when there is a fully developed and costed masterplan with a clear view on what date additional capacity will be available by. Only then will HAL and the CAA be able to determine whether a cost is efficient or not. At the current time this masterplan view is not available and so it is not possible to bring forward any costs yet. The CAA and HAL will need to justify all early Category C costs in the context of an agreed masterplan and the timeline for new capacity to start operation.

**Surface access**

50. IAG fully supports the CAA's existing surface access policy and the application of the user pays principle to apportion costs to airport users based on a fair share of the benefit they derive from a surface access scheme[24]. However, this position has already been undermined by the fact that in the process to secure Government backing for the North West Runway option, and to deliver a Parliamentary majority for the National Policy Statement HAL has made significant commitments on surface access without any effective CAA or airline oversight. These will drive additional costs into the expansion programme.

51. It is unclear why the CAA proposes to address how its policy meets planning and legal obligations for air quality and congestion – that is HAL's job and the costs of the schemes they bring forward should include meeting air quality and congestion requirements. For instance, today any HAL plan to increase car parking provision at the airport has to comply with the T5 planning condition that limits the number of car parking spaces the airport can offer. Likewise, companies operating at the airport including HAL and BA already have to comply with the same vehicle legislation impacting air quality performance. The CAA policy must clearly determine who is responsible for what and ensure that there is not in effect a double-hurdle and more costs being put in place for HAL and companies operating at the airport that will ultimately be paid for by consumers.

52. IAG fully supports the CAA's statement that "we also expect the total costs of capacity expansion (including any contribution toward the cost of surface access schemes to be made from airport charges) to be subject to efficiency, affordability and financeability tests. This also applies to the costs of any obligations that emerge during, or at the end of, the planning process"[25]. The CAA's position is completely aligned with IAG's position that all the surface access costs of expansion

[23] CAP 1658 Para 6.29
[24] CAP 1658 Para 7.4
[25] CAP 1658 Para 7.18

must sit within the airport charges commitment and are not additive[26]. IAG is very concerned that large tranches of cost, particularly for surface access may only emerge at the end of the DCO process when the final decision is made.

53. IAG is concerned that the CAA's view of its statutory role means that oversight of design and delivery of Heathrow surface access arrangements falls outside of its remit[27]. IAG would question whether the CAA should be arguing that they need to have that role in the context of expansion as opposed to the CAA simply saying it is an issue for Government. The assessment of how surface access costs should be balanced will be critical and with stakeholders such as HAL, the DfT and TfL all wanting airport users to pay for more than their fair share of expansion costs, the CAA must be robust to ensure it protects the interests of consumers. IAG will play its part in that process.

**END**

[26] Para 9
[27] CAP 1658 Para 7.25

# Appendix A

# Commentary on Frontier Economics: "Competition & Choice 2017 – a report prepared for Heathrow" (the report)

**Introduction**

1. The report is an unsupportable, badly-argued, self-serving and transparent attempt by Heathrow Airport Limited (HAL) to influence Government policy in favour of its ill-conceived expansion plans. It is worth noting that Frontier Economics (FE) did not publish the report on its website (as is its habit), while the CAA has buried it deep within its own.

2. The main material conclusion of the report seems to be that in 2016 airlines were extracting a fare premium of £59/passenger, because of the capacity constraints at Heathrow Airport (LHR). In this way, FE suggests that monopoly rents of *'roughly £2bn per annum'* are flowing to airlines at LHR. The thrust of FE's reasoning is as follows:

    a. airport capacity is constrained and so there must be monopoly rents;
    b. since LHR is economically regulated, these must accrue to airlines; and so
    c. an increase in capacity will result in value transfer from airlines to passengers.

3. Whilst at first glance, this simplistic description may seem attractive, as will be shown in the following few pages, FE's arguments fall easily at the most basic scrutiny.

4. Aside from a lack of rigour, the report contains numerous errors and other shortcomings – and only the most fundamental of these will be covered in an annex; however, there are two very important contextual matters that should be addressed first and foremost:

    a. HAL does not understand the economics of LHR; and
    b. HAL does not act like a commercial business.

**HAL does not understand the economics of LHR**

5. Either HAL does not understand the economics of LHR, or it doesn't care!

6. HAL's sponsorship of the report and propagation of its conclusions demonstrates not only its lack of understanding of airline economics, but (perhaps more tellingly) how 20 years of congestion have damaged its customers. There is no reason to suppose that HAL is about to become enlightened and so to allow it to transfer its lack of understanding/care into the planning, development, delivery and operation of new capacity at LHR, would counter Government objectives of benefiting passengers and the economy.

7. The report argues that the supply constraint across LHR as a whole translates directly into supply constraints on every route. This is demonstrably not the case. Whilst there are high

barriers to airlines entering LHR, there is nothing whatsoever to stop those already at LHR switching seat capacity between destinations.[28]

8. It follows that the potential supply of seat capacity to any given designation is very high: certainly high enough to outweigh demand for seats at price over cost. Therefore, airlines compete intensely at a route level and so there can be no fare premium. Nevertheless, the outcome of the supply constraint across LHR has been damaging to passengers; just, rather than through an increase in airfares, it has been manifest through a reduction in amenity (choice of destination).

9. Consider Airline A, operating a 90-seat regional aircraft three times a day from LHR to domestic destinations. The aircraft is worth £25m so it requires a yield of £1.25mpa (£38.05/seat) from each of three slots, in order to achieve a required ROIC of 15%, while the NPV of the slot over 10 years is £8m.

10. Airline B, operating twin-aisle large capacity aircraft may not have a slot at LHR for a desired midday operation to its Middle Eastern hub; however, with the same target ROIC and using the same methodology, calculates the 10-year NPV at £181. Thus, it is simple to see how a slot transfer between the two airlines becomes the rational economic outcome:

| | Seat Capacit | Aircraft value | Morning slot | Midday slot | Evening slot | Target ROIC | | NPV @ Y+10 | Seats/ annum | Yield/ seat |
|---|---|---|---|---|---|---|---|---|---|---|
| Airline A | 90 | £25m | £1.25m | £1.25m | £1.25m | 15% | £3.75m | £8m | 32,850 | £38.05 |
| Airline B | 450 | £200m | - | £30.00m | - | 15% | £30.00m | £181m | 164,250 | £182.65 |

11. In this way, routes to destinations on which airlines can generate less revenue/slot (those to nearer destinations, including domestic routes) are replaced by those on which airlines can generate more revenue/slot (those to more distant destinations, including long haul hubs). Clearly, rather than raising fares as argued by FE, optimised commercial performance is achieved by airlines operating over increased sector lengths with larger aircraft.

12. Ironically, in arguing that LHR is better situated than Gatwick (LGW), for long haul operations, exactly the same point is made by FE! As it correctly points out, even though there is spare capacity at LGW, airlines continue to move long haul operations away from LGW and into LHR, whilst (unlike LGW) LHR has been operating at full slot capacity.[29]

13. Clearly and demonstrably therefore, there is no supply constraint at LHR for long haul routes and so there can be no ‘fare premium’.

14. Growth in long haul operations at LHR has been at the expense of short haul operations; however, just as for long haul destinations, rather than resulting in supply constraint and increased airfares, as argued by FE, it has resulted in a reduction in the number of destinations

[28] Assuming that the airlines in question have the right to operate on the particular route in question.
[29] Since 2006, long haul operations at LGW have fallen from 16,000pa to 13,000pa, while at the same time long haul operations at LHR have increased from 70,000pa to 80,000pa. FE observes that since 2000, long haul flights from LGW have decreased by 40%, while those from LHR have increased by 45% (figure 33).

to which airlines operate. Again, FE recognises the truth of this – and indeed, again, uses the exact same argument for a different purpose.[30]

15. Instead of arguing for a non-existent fare premium, in order to advance HAL's case for the development of new capacity at LHR, FE might have considered a most fundamental rule governing network economics: Metcalfe's Law. This states that the number of potential connections across a hub is asymptotically proportional to the square of the number of spokes - that is, destinations.[31]

16. By way of illustration, if at one time airlines at an airport hub operate to 100 destinations, then there would be 4,950 potential connections. Suppose that through attrition over time, the number of destinations halved (entirely analogous to the situation at LHR), then the number of potential connections would have reduced to 1,225. So a 50% reduction in destinations would have led to a 75% reduction in potential connections.

17. Because the majority of actual connections at LHR are between long haul and short haul flights, airlines effectively use (less revenue-generating) short haul capacity to 'export' (more revenue-generating) long haul operations; however, persistent erosion of the number of short haul destinations, increasingly undermines viability of more marginal long haul destinations, causing airlines to intensively compete on a smaller number of concentrated long haul routes. Inevitably, this leads to reduced passenger amenity (choice of destination) and consequently, short haul operations are vitally important to the enduring success of any hub airport, including LHR.

18. FE (and by extension, HAL) have fundamentally and unforgivably failed to recognise the economic reality underpinning future success of the airport, while despite bland statements to the contrary, HAL's proposals do not recognise, let alone cater to, the needs of an enhanced and optimised LHR hub.

19. As something of an aside, FE's statement that *"over the course of 2016, the congestion premium cost passengers roughly £2bn"* is at odds with the figures subsequently presented – that is: all flights £59 - £82; short haul only £25 - £29; and long haul only £43 - £143.[32]

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[30] *"If this continues, it runs the risk of disturbing the balance between short haul and long haul that airlines need to operate a successful hub and spoke model"* (4.1.3).

[31] c = n (n - 1) / 2, where 'c' is the number of potential connections and 'n' is the number of spokes. So considering a telephone network, two telephones can only make one connection (1 = [2 * 1] / 2); five can make 10 (10 = [5 * 4] / 2); and 12 can make 66 connections (66 = [12 * 11] / 2).

[32] Figure 17.

20. The following summarises LHR passenger statistics for 2016:[33]

| | UK | Europe | Africa | North America | Latin America | Middle East | Asia / Pacific | Total |
|---|---|---|---|---|---|---|---|---|
| January 2016 | 331,590 | 2,096,860 | 282,768 | 1,223,621 | 108,334 | 540,326 | 924,220 | **5,507,719** |
| February 2016 | 343,400 | 2,187,317 | 242,851 | 1,017,750 | 95,474 | 481,917 | 810,665 | **5,179,374** |
| March 2016 | 380,005 | 2,529,704 | 268,104 | 1,362,107 | 97,122 | 572,331 | 891,594 | **6,100,967** |
| April 2016 | 375,885 | 2,554,347 | 244,384 | 1,366,169 | 94,162 | 566,711 | 845,568 | **6,047,226** |
| May 2016 | 392,155 | 2,752,426 | 230,481 | 1,500,133 | 98,443 | 523,800 | 795,222 | **6,292,660** |
| June 2016 | 408,998 | 2,879,077 | 223,105 | 1,622,191 | 104,762 | 482,102 | 887,153 | **6,607,388** |
| July 2016 | 415,570 | 3,178,315 | 290,753 | 1,701,080 | 118,683 | 690,084 | 1,049,627 | **7,444,112** |
| August 2016 | 414,442 | 3,070,860 | 294,978 | 1,704,432 | 114,741 | 722,293 | 1,017,106 | **7,338,852** |
| September 2016 | 420,326 | 2,880,156 | 275,264 | 1,550,103 | 101,666 | 635,705 | 929,587 | **6,792,807** |
| October 2016 | 410,610 | 2,785,062 | 270,665 | 1,489,600 | 103,256 | 540,068 | 881,328 | **6,480,589** |
| November 2016 | 394,005 | 2,381,997 | 257,211 | 1,252,384 | 92,232 | 528,778 | 814,526 | **5,721,133** |
| December 2016 | 360,665 | 2,440,494 | 283,455 | 1,381,037 | 96,702 | 677,092 | 923,951 | **6,163,396** |
| | **4,647,651** | **31,736,615** | **3,164,019** | **17,170,607** | **1,225,577** | **6,961,207** | **10,770,547** | **75,676,223** |

21. Taking UK and Europe to be short haul, other destinations to be long haul and adopting the median value of FE's figures, it can be seen that according to FE's methodology the fare premium at LHR in 2016 would have been £4.6bn. Other than that this is such an incredible figure, it is hard to understand how FE could somehow conclude that the outcome of its 'analysis' could be *'roughly £2bn*':

| | | | | |
|---|---|---|---|---|
| Short haul: | 36,384,266 | 48% | £27 | **£982m** |
| Long haul: | 39,291,957 | 52% | £93 | **£3,654m** |
| | **75,676,223** | | | **£4,637m** |

**HAL does not act like a commercial business**

22. BAA (the forerunner to HAL), was broken up by the Competition Commission (the forerunner to the Competition & Markets Authority), first and foremost because it had failed (and presumably was considered beyond redemption) to act commercially. The same adversarial and/or dismissive approach persists in HAL. In particular – and just like BAA, HAL does not develop/operate facilities that add value to its customers.

23. It is astonishing to reflect that airlines invest at least as much capital in LHR operations as does HAL – and that HAL is entirely dependent on airlines for its revenue; yet, still HAL adopts an antagonistic approach towards its most important customers.

24. Turning now to FE's second (even more audacious) assertion: '[that] since LHR is economically regulated, [monopoly rents] must accrue to airlines'…

25. HAL's geared-up returns on RAB equity are a multiple of airline equivalents and HAL can afford to pay its shareholders more in dividends than it invests in LHR. By contrast, British Airways (BA) could not afford to pay dividends between 2001 and 2015; Virgin Atlantic struggled to realise any profits whatsoever; and BMI went bankrupt. Meanwhile, shares in HAL

[33] https://www.heathrow.com/company/investor-centre/results-and-performance/traffic-statistics

(reportedly) currently trade at a significant premium to RAB equity, while those in IAG currently trade at a discount to assets and at around 50% of the FTSE valuation.

26. So whilst interested shareholders undoubtedly recognise the economic reality of LHR, it is those of HAL (not airlines) who collect a congestion premium. So it is unsurprising that FE was unable to provide any analysis to support its assertion that airlines are generating super-normal profits, by collecting a £59/passenger fare premium at LHR.

27. Consider for a moment that in 2017 BA carried around 37m passengers in and out of LHR. Momentarily suspending disbelief for the sake of illustration, suppose it was true that BA was generating a fare premium of £59/passenger. If, as FE claims, it would disappear with new capacity, the result would be that BA would experience a revenue shortfall of £2.2bn, more than wiping out its pre-tax profit of £1.7bn and plunging it into an unsustainable loss-making position of (£0.5bnpa). In the absence of radical cost-cutting, the standard procedure for airlines experiencing this magnitude of loss is to go bankrupt!

28. BA's two biggest supplier costs are fuel (over which it has substantive control of neither price nor consumption) and airport charges (which are similarly uncontrollable). In such circumstances, there would be only two possible routes to BA's salvation: to reduce the quality of its product/service offering; or to reduce its staff costs. It is hard to imagine how much quality would have to be stripped out to mitigate a £2.2bnpa profit reversal; however, even less likely would be an 88% cut to the wage bill that would be required. So if FE's assertions were true, then of the options available to BA, bankruptcy might seem the most attractive! Happily, they are not – but it is crucial to understand that new capacity at LHR cannot and should not be justified by such baseless assertion.

**Conclusion**

29. LHR needs a developer that is not content to ruin airlines' businesses, but rather one that will deliver what they need, in order to provide the service quality passengers need, at which price for which airlines can deliver it. This does not appear to be HAL.

30. So long as the CAA fails to hold HAL accountable, it seems inevitable that it will continue the same damaging behaviours. Until now, HAL has failed to produce a commercial masterplan. The inescapable conclusion must be that either:

    a. HAL doesn't have one, presumably because it sees no need; or
    b. HAL does have one, but is keeping it from the CAA and its customers.

31. Neither option is acceptable to airlines – nor should either be acceptable to the CAA (or Government). As the CAA's outgoing CEO made clear: *"this is probably the largest privately financed infrastructure project anywhere ever in the world. It is of that scale, in terms of being genuinely privately funded and not being backed by Government guarantee."* As such, the CAA must hold HAL (a business regulated precisely because it is not subject to normal market discipline) to account. If the CAA is unable or unwilling to do so, then it must introduce market discipline, by opening up development, construction and operation to competition.

## Annex: further comments on FE's analysis

### FE's input figures are based on limited and highly selective data

32. Airfares used in FE's analysis of LHR are based on 172 observations, which is just 0.036% of the approximately 480,000 annual arrivals and departures. In effect, for each or any of FE's observations to be significant, each would itself have to be a meaningless aggregation.

33. This is clearly not an adequate or meaningful sample size – and moreover:

    a. it is likely that a significant proportion of the seats used in FE's observations will have been booked, cancelled and rebooked a number of times;
    b. network airlines must dynamically respond to passenger demand and so BA will typically change seat prices more than 20,000 times per day; and
    c. airfares vary by route and time of day, day of week, season and lead time.[34]

34. FE admits that it is unable to make sense of transfer airfares, which would apply to the majority of long haul passengers at LHR – and so simply ignores them!

35. FE does not provide business traffic data for the European hubs, against which it seeks to compare LHR – and so cannot make like-for-like comparisons.

36. Crucially, FE uses 'IATA fare data', which relies on traditional travel agency booking, rather than direct/online bookings, which are increasingly common and now represent the majority of point-to-point bookings.

### FE's model produces illogical and inconsistent results

37. In an attempt to isolate their influence on airfares at LHR and LGW, FE's limited and highly selective data are then regressed against eight independent variables, which astonishingly do not include airport charges![35] The results suggest that both the validity of data and structure of FE's model are highly questionable. For example:

    a. at LHR, increased business traffic apparently leads to a reduction in average airfares on any particular route;
    b. equally incongruously, higher levels of transfer traffic on any particular route apparently lead to higher fares for point-to-point passengers; and[36]

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[34] For example, a ticket for any given flight tomorrow will sell at a multiple of the price for the same flight purchased six months in advance. Equally, a flight bought at the same time for a flight to the same destination on the same day, will be cheaper if it departs at 1100 than if at 0700, while a flight to a tourist-type destination may be much cheaper off-season, even with less seat capacity than there is at other times,

[35] Distance, long haul, frequency own, frequency other, business, VFR, transfer and LCC.

[36] Airline yield management systems are designed to develop (lower yielding) transfer traffic, when point-to-point demand is weaker

c. FE suggests that short haul airfares are on average 28% higher at LHR than at other London airports, but samples only 16 overlapping routes to draw this conclusion – and finds that of these, three are in fact cheaper, when flown from LHR.[37]

38. FE's conclusions are markedly different from its previous findings (in its 2014 report); however, it makes no attempt to address this issue. In particular, FE previously concluded that short haul airfares from LHR were on average cheaper than those from LGW.

39. In comparing 23 overlapping long haul routes between LHR and other European hubs (Amsterdam, Paris, Frankfurt and Madrid), FE failed to take any account of higher levels of business traffic at LHR.[38]

**FE admits its conclusions are meaningless**

40. Results from FE's regression model suggests that long haul airfares at LHR are only 9.44% above those at other London airports. It candidly admits to a problem of multicollinearity, which if present in the analysis, would invalidate each and every result.[39]

41. FE goes on to further admit that the results of its analysis are not statistically significant! It is perhaps worth emphasising that the worthless final conclusion drawn by FE, is that it can't say that something is untrue:

*"[T]he sample size on long haul flights is small, at only 126 observations. Thus, we would not expect to find a significant result due to the small sample size, so **we cannot conclude that there is not a premium on long haul flights**." (**Emphasis** added.)*

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[37] Hamburg, Lisbon and Zurich, in regard to which FE makes no attempt to suggest why there is no 'congestion premium'.

[38] Figure 16.

[39] In statistics, multicollinearity is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy. In this situation the coefficient estimates of the multiple regression may change erratically in response to small changes in the model or the data. Multicollinearity does not reduce the predictive power or reliability of the model as a whole, at least within the sample data set; it only affects calculations regarding individual predictors. That is, a multivariate regression model with collinear predictors can indicate how well the entire bundle of predictors predicts the outcome variable, but it **may not give valid results about any individual predictor**, or about which predictors are redundant with respect to others. (**Emphasis** added.)

# Appendix B

# Airline community expansion affordability modelling scenarios

| Inputs | Central | Upside | Downside |
|---|---|---|---|
| **Passengers** | 2%pa growth until 3rd runway opens, then 3% pa for 5yrs after runway open (HAL initial uptake). Dropping back to<br><br>2%pa trend | 2.5%pa until 3rd runway opens, then 3.5%pa after the runway opens for five years, then returning to<br><br>2.5%pa | 1.5%pa growth until 3rd runway opens, then 2.5%pa after the runway opens for five years, then return to 1.5%pa |
| **Capex** | HAL Westerly option | Central case -5% (as recommended by IFS) | Central case +45% (as recommended by IFS) |
| **WACC (Internal)** | 4.57% Vanilla<br><br>as per CAA modelling | H7&H8 - 4.57% (vanilla), H9 onwards - 4.3% vanilla (as per CAA modelling) | H7&H8 - 4.57 vanilla<br><br>H9 onwards - 5.47% vanilla |
| **Opex** | Variable opex grows in line with passenger volumes;<br><br>£200m uplift for new terminal<br><br>Further variable opex growth in line with passenger volumes.<br><br>Assume 1%pa efficiency frontier reduction | As per Central case but 2%pa efficiency frontier reductions | As per Central case but no efficiency frontier gains |
| **Revenue** | 1% growth | Grows 1%<br><br>New terminal 2% for 5 years<br><br>Returns 1% growth | 1% growth<br><br>No growth post new runway |