Economic analysis of the profitability of regional airports

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Prepared for ACI EUROPE, the UAF, ADV, the RAA and Assaeroporti

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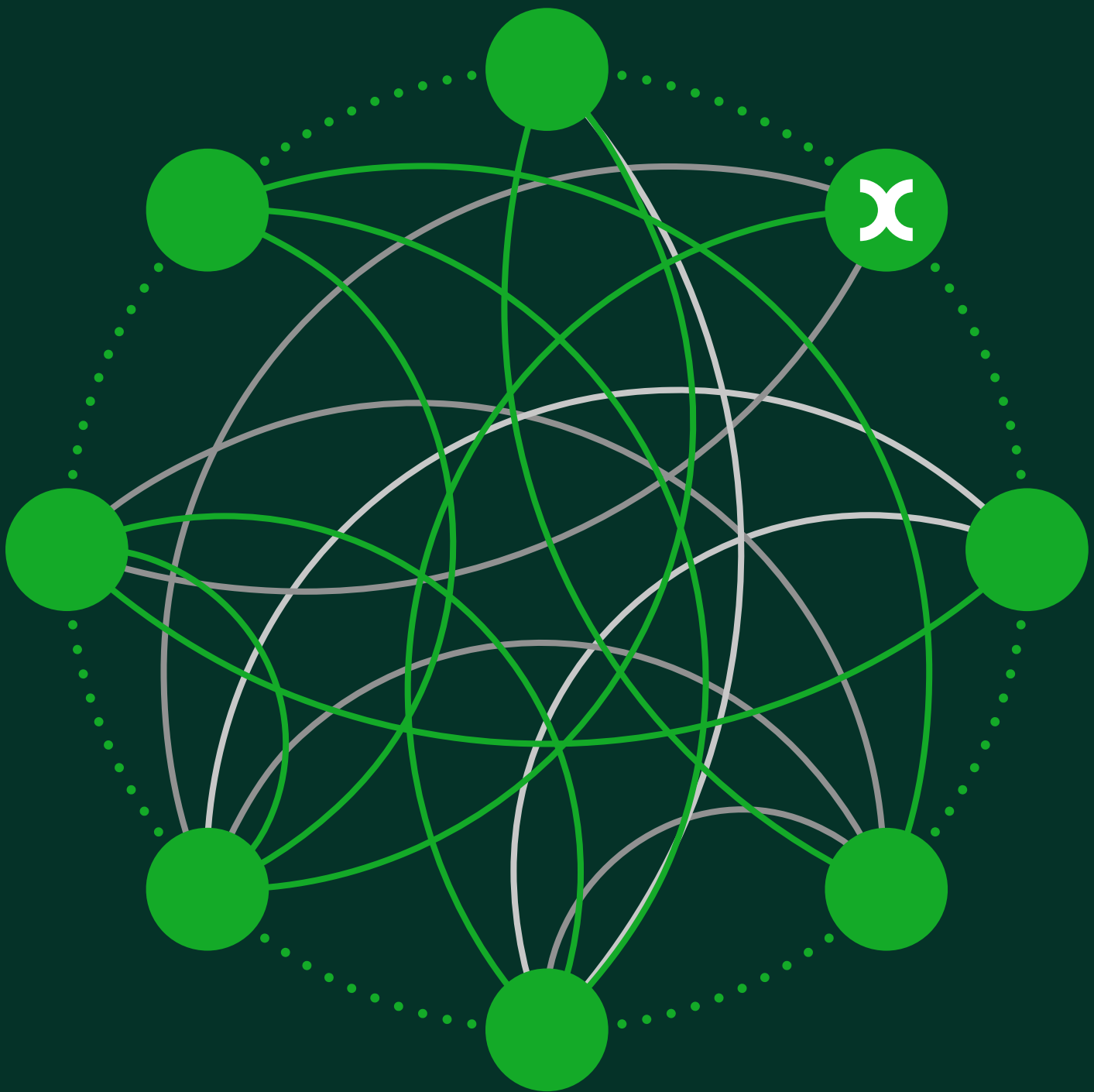

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1 Introduction

1.1 The EU has a concentrated network of airports, with a large number of regional airports that serve predominantly point-to-point short- and medium-haul flights.[1] According to the Airports Council International Europe ('ACI EUROPE'), regional airports facilitated travel to 724 destinations, operated by 209 airlines, and offered 14,600 routes within the EU in 2017.[2]

1.2 Under the current state aid rules, regional airports below a certain size are allowed to receive operating aid to cover their day-to-day costs. At the time when the European Commission introduced its 2014 Aviation State aid Guidelines (hereafter '2014 Guidelines'), subject to certain conditions, member states could grant aid to cover the operating costs of airports with traffic below 3 million passengers per year ('mppa') for a transitional period of ten years (i.e. until April 2024).[3]

1.3 The rationale for allowing operating aid to be granted to airports (under certain conditions) is to contribute to the connectivity of regions, to mitigate congestion at hub airports, and/or to contribute towards economic development in the EU.[4] The importance of regional airports in contributing towards connectivity and regional development has been acknowledged by the Commission in its decisional practice.[5]

1.4 At the time of the introduction of its 2014 Guidelines, the Commission presumed that, by 2024, the financial viability of airports with more than 200,000 passengers per year ('ppa') would have improved such that they would be able to cover their operating costs through their revenues. The Commission presumed that, over the ten-year transitional period, airports would be able to gradually increase their charges to airlines,

[1] ACI EUROPE (2024), 'Regional Airports' Forum', https://www.aci-europe.org/regional-airports-forum, accessed 12 March 2024.
[2] ACI EUROPE (2024), 'Fact Facts', https://www.aci-europe.org/about/about-us, accessed 8 March 2024.
[3] European Commission (2014), 'Guidelines on State aid to airports and airlines, Communication from the Commission', *Official Journal of the European Union*, 2014/C 99/03, 4 April, section 5.1.2.
[4] European Commission (2014), op. cit., paras 13 and 113.
[5] For instance, see European Commission Decision (2017), 'State Aid SA.44377 (2016/NN) – Denmark - Aarhus Airport', 9 August, para. 75; and European Commission (2018), 'State Aid SA.46945 (2018/NN) – Germany Erfurt-Weimar Airport', 27 June, para. 84.

introduce cost rationalisation measures, differentiate their business models, or attract new airlines.[6]

1.5 In 2020, the Commission undertook a 'fitness check' of its 2014 Guidelines. The Commission concluded that the transitional period was not sufficient for many regional airports to cover their costs by 2024, and that many airports below 1mppa would continue to need operating aid after 2024, even before taking into account the negative impacts from the COVID-19 pandemic and the energy crisis.[7]

1.6 In July 2023, the Commission decided to prolong the transitional period by three years until 4 April 2027 in light of the COVID-19 pandemic and the energy crisis.[8] Therefore, under the current state aid rules, after 4 April 2027, member states will no longer be able to grant operating aid to airports whose traffic exceeds 200,000ppa.

1.7 In this context, ACI EUROPE, Arbeitsgemeinschaft Deutscher Verkehrsflughäfen ('ADV'), Assaeroporti, the Romanian Airports Association ('RAA') and the Union des Aéroports Français ('UAF') have commissioned Oxera to analyse the profitability prospects of regional airports. In particular, we have been asked to update our previous study that examined the profitability of regional airports, which we undertook in 2019.[9] Our 2019 study found that five out of the six airports with fewer than 1mppa included in the sample would be unlikely to become profitable by 2024.[10]

1.8 As part of this current study, we have been asked to evaluate the impact of the COVID-19 pandemic, the war in Ukraine and the associated restrictions on airspace, the energy crisis, the EU's Fit for 55 decarbonisation policies as well as the structural changes in the aviation market on the ability of regional airports to cover their operating costs.

[6] European Commission (2014), op. cit., para. 13.
[7] European Commission (2020), 'Commission Staff Working Document, Fitness Check of the 2012 State aid modernisation package, railways guidelines and short-term export credit insurance', SWD(2020) 257 final, 30 October, p. 128.
[8] European Commission (2023), 'State aid: Commission prolongs the possibility to grant operating aid to certain regional airports', 7 July, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3710, accessed 27 March 2024.
[9] Oxera (2019), 'The European Commission's consultation on the 2014 Aviation State Aid Guidelines, An economic analysis of airports' profitability', prepared for ACI EUROPE and the UAF, 30 October, https://aci-europe.org/downloads/resources/OXERA%20STUDY%20on%20State%20Aid%20-%20An%20economic%20analysis%20on%20airports%20profitability.pdf, accessed 27 March 2024.
[10] Ibid., para. 3.6.

1.9 To conduct the analysis, we have collected data on the financial position of a sample of member airports from ACI EUROPE, Assaeroporti, ADV, the RAA and the UAF. The airports were selected to ensure a wide coverage across different EU member states. We have also engaged with the management of the airports to understand how the airports have responded to the recent crises, the Commission's Fit for 55 policies and the structural changes that have occurred in the aviation market.

1.10 In this report, we set out the results from analysing the financial position of the airports in the sample and how their profitability has evolved over time, as well as insights provided by the management of the airports in the sample. We have also compared our findings with those from other empirical studies.

1.A Structure of the report

1.11 The report is structured as follows.

- In section 2, we provide an overview of the current state aid rules for operating aid to airports, focusing on the Commission's 2014 Guidelines. We then compare the different traffic thresholds that are currently applied by the Commission to determine the eligibility of airports for operating aid with findings from empirical studies. Finally, we discuss the impact of the COVID-19 pandemic and the war in Ukraine and the associated energy crisis on regional airports' profitability.

- In section 3, we set out the results of the analysis that we have undertaken based on the sample of regional airports. To examine whether the airports in the sample are likely to be able to cover their operating costs by the end of the transitional period in 2027, we have analysed the airports' revenue and cost drivers as well as the airports' overall financial position. We also discuss the Commission's Fit for 55 proposals, which will affect the profitability of the airports.

- In section 4, we provide an overall conclusion and, based on our findings, set out policy recommendations in relation to possible future changes to the state aid rules for operating aid to regional airports.

2 Overview of the current state aid rules for operating aid to airports, and the relationship between airports' size and profitability

2.1 Under the Commission's 2014 Guidelines, member states can grant operating aid to regional airports with average annual passenger traffic between 200,000ppa and 3mppa for a transitional period of 13 years.[11] It is presumed by the Commission that, by the end of the transitional period in April 2027, airports of this size will have been able to cover their operating costs through their revenues, and therefore operate profitably.[12]

2.2 In this section, based on results from the empirical literature, we explore whether the transitional period of 13 years is likely to be sufficient to allow regional airports to cover their operating costs through their revenues, and whether there might be a continued need for operating aid for the smaller airports. In particular,

- in section 2.A, we provide an overview of the current state aid rules for operating aid to airports, including the different traffic thresholds that are currently applied by the Commission to determine the eligibility of airports for operating aid;
- in section 2.B, we assess if the relationship between airports' size and profitability, as implied by the current state aid rules, is supported by findings from empirical studies;
- in section 2.C, we discuss the impact of the COVID-19 pandemic and the war in Ukraine and the associated energy crisis on airports' profitability, and the implications of these

[11] According to para. 25(9) of the 2014 Guidelines, average annual passenger traffic is defined as passenger traffic during the two financial years preceding that in which the aid is notified or granted in the case of non-notified aid. See European Commission (2014), op. cit., para. 25(9). The transitional period was originally ten years until April 2024. In mid-2023, the Commission extended the transitional period to April 2027. See European Commission (2023), 'Communication from the Commission extending the transitional period provided for in the Guidelines on State aid to airports and airlines concerning regional airports 2023/C 244/01', *Official Journal of the European Union*, C 244/1, 11 July. Under certain conditions, member states can grant operating aid to airports with fewer than 200,000ppa under the General Block Exemption Regulation.
[12] European Commission (2014), op. cit., para. 13.

events on the Commission's prolongation of the transitional period in 2023.

2.A Overview of the current state aid rules for operating aid to airports

2.3 Since the introduction of the Commission's previous state aid guidelines in 2005, the aviation industry has undergone significant changes. The gradual completion of the EU internal market removed commercial restrictions for airlines flying within the EU. This, combined with the rapid development of low-cost carriers ('LCCs'), led to a significant increase in air traffic.[13] Many hub airports have started to face significant capacity constraints, and forecasts suggested that by 2035 approximately 2m flights may not be accommodated.[14]

2.4 Within this context, the Commission considers that operating aid to regional airports can be justified under specific circumstances, when the aid aims to enhance connectivity and economic development or mitigate congestion at major hub airports.[15] The 2014 Guidelines initially allowed airports with between 200,000ppa and 3mppa to receive operating aid under certain conditions over a transitional period of ten years.[16]

2.5 At the time when the 2014 Guidelines were introduced, airports with more than 200,000ppa were expected to be able to adapt to the new market environment and become profitable on an operational basis by the end of the transitional period. According to the Commission, this could involve gradually increasing airport charges to airlines, introducing cost rationalisation measures, differentiating the airport's business model from competitors or attracting new airlines and customers to utilise any unused capacity.[17] Therefore, at the time of the introduction of the 2014 Guidelines, it was presumed that the granting of operating aid would no longer be allowed after April 2024 for airports with more than 200,000ppa.[18]

2.6 The 2014 Guidelines acknowledged that airports with up to 700,000ppa could experience greater difficulties in achieving full operational cost coverage during the ten-year transitional

[13] European Commission (2013), 'Guidelines on regional State aid for 2014-2020', 23 July, paras 3–7.
[14] EUROCONTROL (2013), 'Challenges of Growth 2013, Task 4: European Air Traffic in 2035', p. 3.
[15] European Commission (2014), op. cit., paras 12 and 113.
[16] Ibid., para. 112.
[17] Ibid., op. cit., para. 13.
[18] Ibid., para. 13.

period. The 2014 Guidelines therefore allowed a higher aid intensity for this category of airports for an initial period of five years until 3 April 2019.[19] In 2018, the Commission extended the period until 3 April 2024, aligning with the transitional period applicable to airports with more than 700,000ppa.[20]

2.7 In light of the severe impact of the COVID-19 pandemic on the aviation industry as well as the war in Ukraine, in mid-2023, the Commission extended the transitional period to April 2027.[21] Until this date, member states can grant operating aid to airports with below 3mppa, and can provide a higher aid intensity for airports with up to 700,000ppa.[22]

2.8 As set out in the 2014 Guidelines, the Commission considers that an airport's financial viability, and thus its eligibility for operating aid, depends on its size.[23] As shown in Table 2.1, the Commission defines four distinct size categories which determine the maximum aid intensity allowed for operating aid.

- For airports with traffic greater than 3mppa, operating aid is not allowed.
- For airports with traffic between 700,000ppa and 3mppa, the maximum amount of operating aid allowed is 50% of the airport's operating funding gap over the 2009–13 period.[24]
- For airports with more than 200,000ppa but fewer than 700,000ppa, a higher aid intensity of 80% of the airport's operating funding gap over the 2009–13 period is allowed.
- For airports with fewer than 200,000ppa that satisfy certain conditions,[25] operating aid can be granted without prior notification to the Commission under the General Block

[19] European Commission (2014), op. cit., para. 130.
[20] European Commission (2018), 'Communication from the Commission concerning the prolongation of the specific regime for operating aid for airports with up to 700000 passengers per annum provided for in the Guidelines on State aid to airports and airlines', *Official Journal of the European Union*, C 456/27, 18 December.
[21] European Commission (2023), 'Communication from the Commission extending the transitional period provided for in the Guidelines on State aid to airports and airlines concerning regional airports 2023/C 244/01', *Official Journal of the European Union*, C 244/1, 11 July.
[22] Ibid.
[23] European Commission (2014), op. cit., para. 13.
[24] The 2014 Guidelines refer to the shortfall in airports' revenues compared with its operating costs over the 2009–13 period as 'the initial operating funding gap'.
[25] For example, the airport should be open to all potential users and the average annual freight traffic of the airport should not exceed 200,000 tonnes during the two financial years preceding the year in which operating aid is granted.

Exemption Regulation ('GBER').[26] In contrast to the 2014 Guidelines, the GBER does not foresee that operating aid for airports of this size will be phased out, with operating aid allowed to cover 100% of airports' annual losses and a reasonable profit.

Table 2.1 Operating aid under the current state aid rules

Category of airports	Maximum aid intensity	Reference value	State aid framework
>3mppa (category 4 airports)	0%	-	2014 Guidelines
700,000ppa–3mppa (category 3 airports)	50%	Airport's average operating funding gap over the 2009–13 period	2014 Guidelines
200,000ppa–700,000ppa (category 2 airports)	80%	Airport's average operating funding gap over the 2009–13 period	2014 Guidelines
<200,000ppa[1] (category 1 airports)	100%	Airport's operating losses and a reasonable profit	GBER

Notes: [1] Subject to certain conditions as set out in European Commission (2017), 'Commission Regulation (EU) 2017/1084 amending Regulation (EU) No 651/2014 and No 702/2014', 14 June, Article 56a.
Sources: European Commission (2014), 'Guidelines on State aid to airports and airlines', *Official Journal of the European Union*, C 99/3, 4 April; and European Commission (2023), 'Communication from the Commission extending the transitional period provided for in the Guidelines on State aid to airports and airlines concerning regional airports 2023/C 244/01', *Official Journal of the European Union*, C 244/1, 11 July.

2.B The relationship between airports' size and profitability

2.9 At the time of the introduction of its 2014 Guidelines, the Commission acknowledged that airports with traffic below 1mppa are typically not able to cover their operating costs.[27]

2.10 A number of empirical studies have analysed the relationship between the size of airports and their profitability. Although the results vary, many of the studies indicate that the minimum number of passengers that are required to enable airports to cover their operating costs is significantly higher than the 200,000ppa threshold underpinning the GBER.[28]

2.11 A study conducted by Air Transport Group in 2002 analysed the economic viability of airports within the UK, Sweden and France and found that an average airport should break-even (i.e. its operating revenues should cover its operating costs) at c.

[26] European Commission (2017), 'Commission Regulation (EU) 2017/1084 amending Regulation (EU) No 651/2014 and No 702/2014', 14 June, Article 56a.
[27] European Commission (2014), op. cit., para. 5.
[28] The empirical studies cited in this report use both Earnings Before Interest and Taxes ('EBIT') and Earnings Before Interest, Taxes, Debt and Depreciation ('EBITDA') as profitability measures.

500,000ppa.[29] The study also highlighted that the threshold varied both between and within countries. In the UK, the profitability threshold was 500,000ppa to 700,000ppa. Similarly, in Sweden, the threshold was 500,000ppa to 600,000ppa. In contrast, the study found that airports in France break-even on an operational basis with only c. 200,000ppa due to differences in the airports' cost structures and the extent of public funding. For example, the costs of airports' non-economic activities (such as air traffic control) in France were covered by public funding, while these costs in the UK were normally borne by the airport operators.[30]

2.12 Another study from Heymann and Vollenkemper (2005) broadly supported these findings, estimating the break-even point for European airports to be in the range of 500,000ppa to 2mppa.[31]

2.13 Other more recent studies indicate that the level of passenger traffic at which airports break-even on an operational basis has evolved significantly. For example, in 2012, a report commissioned by the Norwegian Ministry of Transport and Communication found that the level of traffic necessary for European airports to break-even increased from around 200,000ppa in 2002 to c. 800,000ppa by 2010. The study notes that this increase could be explained by a rise in safety and security expenditure at the EU level.[32] In the same year, another study, which covered 139 European airports in ten countries, confirmed the findings, and concluded that the average break-even level of traffic was c. 750,000ppa.[33] The findings of a study by Fageda and Voltes-Dorta in 2012 found that the level of traffic typically required by airports in Spain to break-even was 500,000ppa.[34]

2.14 In 2015, research conducted by the ACI indicated that airports with fewer than 1mppa often struggle to achieve profitability

[29] Air Transport Group, Cranfield University (2002), 'Study on Competition between Airports and the Application of State Aid Rules', Volume 1, section 7, pp. 1–2.
[30] Ibid., section 5, p. 18 and section 6, p. 11.
[31] Heymann, E. and Vollenkemper, J. (2005), 'Expansion of regional airports: Misallocation of resources', Deutsche Bank Research, as cited in Bubalo, B. (2012), 'Benchmarking European Airports Based on a Profitability Envelope', *Lecture Notes in Computer Science*, **7555**, pp. 171–89, doi: 10.1007/978-3-642-33587-7_13.
[32] GAP (2012), 'Comparative study (benchmarking) on the efficiency of Avinor's airport operations. Revised report submitted to the Norwegian Ministry of Transport and Communication', p. 7.
[33] In this study, the break-even point is based on Earnings Before Interest and Tax ('EBIT'). Bubalo, B. (2012), 'Benchmarking European Airports Based on a Profitability Envelope', *Lecture Notes in Computer Science*, **7555**, pp. 171–89, doi: 10.1007/978-3-642-33587-7_13.
[34] Fageda, X. and Voltes-Dora, A. (2012), 'Efficiency and profitability of Spanish airports: a composite non-standard profit Function approach', Universitat de Barcelona.

due to their high level of fixed costs.[35] A study undertaken in 2016 that analysed airports worldwide reaffirmed this threshold.[36]

2.15 In 2019, on behalf of ACI EUROPE and the UAF, we analysed whether the transitional period of ten years (i.e. 2014–24), as set out in the 2014 Guidelines, was likely to be sufficient to enable airports to reach operational cost coverage by the end of the period. Our results, which were based on financial information from a sample of EU airports, showed that five out of six airports with fewer than 1mppa would be unlikely to become profitable by 2024.[37] The findings of our study are supported by a study from Augustyniak (2020), which found that airports in Poland are typically able to become profitable if traffic exceeds 1mppa.[38]

2.16 The Commission also noted in its 2020 fitness check of its state aid rules that, in general, a significant proportion of airports with fewer than 1mppa would be unlikely to be able to cover their operating costs by 2024.[39] Therefore, the Commission acknowledged that it might be necessary to prolong the transitional period beyond 2024.[40] This highlights that the need for the prolongation of the transitional period was recognised by the Commission prior to the onset of pandemic.

2.17 The study that underpinned the Commission's fitness check found that the number of passengers is an important predictor of an airport's profitability, and that more than 30% of airports with between 200,000ppa and 700,000ppa would be unlikely to cover their operating costs by 2024, with the percentage

[35] ACI (2015), 'ACI Economics Report', as cited in Mott Macdonald (2017), 'Air Transport Market 2016', p. 100, https://transport.ec.europa.eu/system/files/2017-06/2016_eu_air_transport_industry_analyses_report.pdf , accessed 11 September 2024.
[36] Vogel, H-A. (2016), 'Challenges of airport economics for financial management', *Journal of Airport Management*, **10**:3, pp. 416–35, as cited in Zuidberg, J. (2017), 'Exploring the determinants for airport profitability: Traffic characteristics, low-cost carriers, seasonality and cost efficiency', *Transportation Research Part A: Policy and Practice*, **101**, July, p. 62.
[37] Oxera (2019), 'The European Commission's consultation on the 2014 Aviation State Aid Guidelines, An economic analysis of airports' profitability', prepared for ACI EUROPE and the UAF, 30 October, https://aci-europe.org/downloads/resources/OXERA%20STUDY%20on%20State%20Aid%20-%20An%20economic%20analysis%20on%20airports%20profitability.pdf, accessed 27 March 2024.
[38] Augustyniak, W. (2020), 'Income statement as an assessment tool of an airport operator: A case study of Polish airports', *International Entrepreneurship Review*, **6**:2, pp. 17–35.
[39] European Commission (2020), 'Fitness Check of the 2012 State aid modernisation package, railways guidelines and short-term export credit insurance', SWD(2020) 257 final, 30 October, p. 128. This fitness check is supported by a study from Lear, DIW Berlin and Sheppard Mullin (2020), 'Support study for the evaluation of the rules for operating aid under the EU aviation framework', final report, *Publications Office*.
[40] Ibid.

increasing to 62% for airports with up to 200,000ppa.[41] The study was based on data and forecasts from airports that were developed prior to the onset of the COVID-19 pandemic and that covered the 2019–24 period.[42]

2.18 In light of differences in the growth trajectories of airports below 3mppa, the study proposed the introduction of further categories, specifically five categories, of airports based on levels of passenger traffic.[43] The study concluded that such a categorisation was more likely to accurately capture the financial situation of airports compared with the broader classification in the 2014 Guidelines.[44]

2.19 There are also some instances where airports with traffic in excess of 1mppa have struggled to operate profitably. For example, in the 2020 Commission Decision approving operating aid to Debrecen Airport in Hungary, the Commission noted that the airport would only be likely to cover its operating costs when its traffic exceeded 1.5mppa.[45] Moreover, in 2019, the Commission approved operating aid to Dortmund Airport, which had c. 2.1mppa in 2018.[46] The airport's operating losses were partly the result of the airport being situated in a region with relatively high labour costs.[47] The Commission concluded that the airport would only be able to cover its operating costs in 2023 when traffic was expected to reach 2.4mppa.[48] These examples illustrate that, in certain cases, airports with traffic exceeding 1mppa might also struggle to achieve financial profitability, at least in the short to medium term.

[41] Lear, DIW Berlin and Sheppard Mullin (2020), 'Support study for the evaluation of the rules for operating aid under the EU aviation framework', final report, *Publications Office*, p. 60.
[42] European Commission (2020), 'Fitness Check of the 2012 State aid modernisation package, railways guidelines and short-term export credit insurance', SWD(2020) 257 final, 30 October, p. 43; and Lear, DIW Berlin and Sheppard Mullin (2020), op. cit., p. 53.
[43] In particular, the study proposed the following categorisation of airports: Class 1: 0–200,000ppa; Class 2: 200,001–700,000ppa; Class 3: 700,001ppa–1mppa; Class 4: 1mppa–3mppa; and Class 5: above 3mppa.
[44] European Commission (2020), 'Support study for the evaluation of the rules for operating aid under the EU aviation framework – Final report', *Publications Office*, https://data.europa.eu/doi/10.2763/070570, accessed 26 March 2024.
[45] European Commission (2020), 'State Aid SA.57109 (2020/N) – Hungary, Operating aid to Debrecen International Airport Kft.', C(2020) 6298 final, 14 September, para. 63.
[46] European Commission (2019), 'State Aid SA.46373 (2019/NN) – Germany, Operating Aid to Dortmund airport', C(2019) 4990 final, 5 July.
[47] According to Destatis, in 2018, hourly labour costs in Germany amounted to €35.0 compared with the EU average of €26.6. See Statistisches Bundesamt, 'Press, Labour costs up 3.0% in 2019', https://www.destatis.de/EN/Press/2020/03/PE20_086_624.html, assessed 4 March 2024.
[48] European Commission (2019), 'State Aid SA.46373 (2019/NN) – Germany, Operating Aid to Dortmund airport', C(2019) 4990 final, 5 July, paras 13–18.

2.20 Table 2.2 below summarises the empirical findings as to the level of passenger traffic required for airports to break-even. The empirical studies show, depending on the study, that prior to the pandemic and the energy crisis, airports with fewer than approximately 500,000ppa to 1mppa were not able to break-even on an operational basis. However, the studies and the Commission's decisional practice also show that the profitability of airports depends on country-specific factors, which can make it difficult to establish a uniform EU-wide threshold under the state aid rules to determine airports' eligibility for operating aid.

Table 2.2 Break-even traffic thresholds

Break-even traffic thresholds	Reference area	Sources
1mppa	(i) UK/worldwide (ii) Poland (iii) EU	(i) Vogel (2016) and ACI (2015) (ii) Augustyniak (2020) (iii) European Commission (2020) and Oxera (2019)
800,000ppa	Europe	GAP (2012)
750,000ppa	Europe	Bubalo (2012)
700,000ppa	Europe	Lear, DIW Berlin and Sheppard Mullin (2020)
500,000ppa	(i) Spain (ii) Europe	(i) Fageda and Voltes-Dora (2012) (ii) Heymann and Vollenkemper (2005) and Air Transport Group (2002)[1]
460,000ppa	Europe	Adler et al. (2013)

Note/Sources: [1] Work load units ('WLU') have been converted into passenger numbers (one WLU is equivalent to one passenger or 100kg of freight). Based on various empirical studies, as outlined above.

2.21 While the Commission's current state aid rules assume that the break-even level of passenger traffic would gradually decrease from 1mppa to 200,000ppa by April 2027, empirical research undertaken prior to the pandemic suggests that the threshold is not lower than the level assumed by the Commission in its 2014 Guidelines. This could be related to the fact that airports have needed to adapt to structural changes in the aviation market that occurred after the introduction of the 2014 Guidelines, particularly the increased competition between airports.[49] These

[49] See Oxera (2017), 'The continuing development of airport competition in Europe', 15 September, https://www.oxera.com/wp-content/uploads/2018/07/The-continuing-development-of-airport-

empirical findings therefore raise questions about the appropriateness of the Commission's initial assumption that airports would gradually be able to increase charges to airlines to become profitable.

2.C Impact of the COVID-19 pandemic and the war in Ukraine

2.22 Evidence from academic studies undertaken prior to the COVID-19 pandemic shows that the level of traffic at which airports break-even has not decreased over time, in contrast to the Commission's expectations at the time of the introduction of the 2014 Guidelines.

2.23 The onset of the COVID-19 pandemic and the subsequent energy crisis have created additional challenges that have adversely affected the ability of airports to cover their costs. There are, however, very limited studies that have assessed the impact of the COVID-19 pandemic, the war in Ukraine and the energy crisis on the ability of regional airports in the EU to break-even on an operating basis.

2.24 In this section, we discuss the general impact of the pandemic, the war in Ukraine and the energy crisis as well as the recovery from the pandemic on regional airports' profitability, based on the available empirical studies. In section 3, we consider further the impact of the crises on regional airports' profitability based on data from the airports in our sample, as well as interviews with the airports' management.

2.25 The travel restrictions imposed by governments in response to the COVID-19 pandemic led to a sudden halt in air traffic, which resulted in the number of passengers in the EU declining by 73% in 2020 compared with 2019.[50] The pandemic represented a significant financial shock for small regional airports, especially those that operated on relatively low profit margins prior to the

competition-in-Europe-report-for-ACI-Europe-1.pdf-1.pdf, accessed 18 April 2024; ACI EUROPE (2023), 'Competition between Europe's airports: new analysis highlights shifting dynamics as airline power tightens grip', https://www.aci-europe.org/media-room/440-competition-between-europe-s-airports-new-analysis-highlights-shifting-dynamics-as-airline-power-tightens-grip.html, accessed 5 September 2024.

[50] Eurostat (2021), 'Air passenger transport decreased by 73% in 2020', 6 December, https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20211206-1, accessed 16 May 2024.

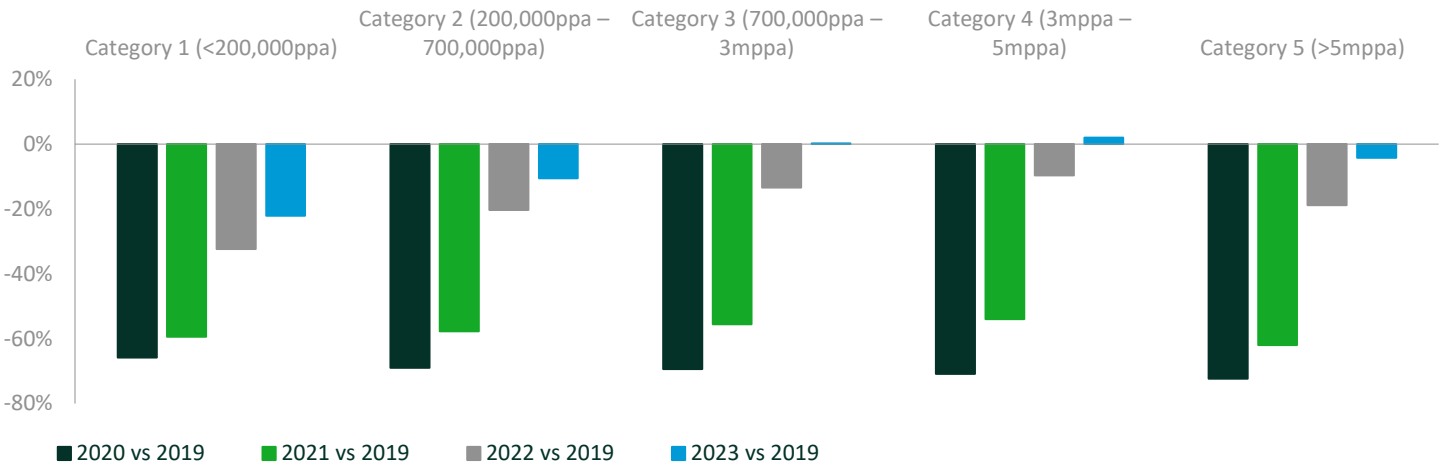
pandemic.[51] Revenues of European airports declined by c. €33.6bn (-68.8%) in 2020 compared with 2019.[52]

2.26 With the gradual removal of travel restrictions, air traffic started to recover from the pandemic, with 27% of airports in Europe reaching their pre-COVID-19 levels of traffic in 2022.[53] This recovery was driven primarily by regional airports, which accounted for 90% of those airports whose traffic had fully recovered by 2022. However, passenger traffic at regional airports as a whole still remained, on average, 12% below pre-pandemic levels that year.[54] In general, the faster recovery of traffic at regional airports than at hub airports was likely due to regional airports having a relatively high share of leisure traffic, which quickly rebounded after the end of the COVID-19-related travel restrictions, as well as higher levels of intra-EU traffic.[55] In particular, the introduction of the EU Digital COVID Certificate contributed towards intra-EU traffic starting to recover from 2021.[56] In contrast, the Council Recommendation to no longer impose restrictions on travel from non-EU countries was only adopted in December 2022.[57]

2.27 Although regional airports (those with fewer than 5mppa) in general outperformed their larger counterparts in 2022 in terms of passenger traffic, as shown in Figure 2.1 below, smaller regional airports (i.e. those in categories 1 and 2, with fewer than 700,000ppa) recovered far more slowly from the pandemic than larger regional airports (i.e. those in category 4, with more than 3mppa but fewer than 5mppa). The slower recovery is likely to have had a greater adverse impact on the profitability of smaller airports, as smaller airports are less likely to be able to spread their relatively high fixed costs over a sufficiently large number of passengers in order to break-even.

[51] IATA (2021), 'Economic Performance of the Airline Industry', October.
[52] European Commission (2021), 'The future of regional airports: Challenges and opportunities', February, https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689346/EPRS_BRI(2021)689346_EN.pdf, accessed 8 March 2024.
[53] ACI EUROPE (2023), 'European Regional Airports', https://www.aci-europe.org/downloads/publications/EUROPEAN%20REGIONAL%20AIRPORTS%202023.pdf, accessed 13 March 2024.
[54] Ibid.
[55] ING (2023), 'Global aviation outlook: Air fares climb higher amid the unprecedented recovery of traffic', 10 July, https://www.ing.com/Newsroom/News/Global-aviation-outlook-Air-fares-climb-higher-amid-the-unprecedented-recovery-of-travel.htm, accessed 17 May 2023.
[56] See European Commission (2023), 'Travel during the coronavirus pandemic', September, https://commission.europa.eu/strategy-and-policy/coronavirus-response/travel-during-coronavirus-pandemic_en, accessed 16 May 2024.
[57] Ibid.

Figure 2.1 Recovery of passenger traffic by size of airport



Note: The analysis is based on a sample of 343 European airports whose level of passenger traffic in 2023 is publicly available. Airports are categorised based on their average passenger numbers over the 2022–23 period, in line with the categories set out in European Commission (2014), 'Guidelines on State aid to airports and airlines', *Official Journal of the European Union*, C 99/3, 4 April.
Source: Oxera analysis of data from European Commission (2024), 'Air passenger transport by main airports in each reporting country', 29 August, https://ec.europa.eu/eurostat/databrowser/view/AVIA_PAOA__custom_10371306/default/table?lang=en, accessed on 5 September 2024.

2.28 Since February 2022, the war in Ukraine has introduced new challenges, including significant increases in jet fuel expenses, higher energy costs, restrictions on airspace, as well as the impact of the associated economic slowdown.[58] Unlike the travel restrictions introduced during the pandemic, which had a fairly uniform effect on all airports, the impact of the war in Ukraine varies between airports, and its impact is highly dependent on the regions in which airports are located. For example, the war has particularly affected the recovery of airports in Bulgaria, Czechia, Finland, Latvia, and Slovenia.[59]

2.29 By December 2023, the number of flights in Europe had recovered to 92% of their pre-COVID-19 levels and total passenger volumes had almost fully recovered to pre-COVID

[58] Georgiadis, P. and Milne, R. (2022), 'Finnair shares plummet as airline is banned from Russia's airspace', *Financial Times*, 28 February; Finnair plc (2022), 'The potential closure of Russian airspace would have significant financial impacts on Finnair; the company withdraws its guidance and is preparing for a prolonged situation', Stock Exchange Release, 28 February; and FitchRatings (2022), 'European Airlines' Recovery Dampened by Russia-Ukraine Conflict', 14 March.
[59] ACI EUROPE (2022), 'European airports handle an additional 660 million passengers in the first half of 2022', 27 July, https://www.aci-europe.org/media-room/408-european-airports-handle-an-additional-660-million-passengers-in-the-first-half-of-2022.html, accessed 11 March 2023.

levels.[60] However, there was significant variation across airports in the EU, with some airports substantially exceeding their 2019 levels of traffic, while traffic at other airports was significantly below 2019 levels.[61] Overall, as of June 2024, only 53% of European airports had recovered to their 2019 levels of passenger traffic.[62] In particular, those airports that rely on leisure traffic or visiting friends and relatives ('VFR') travel largely exceeded their pre-pandemic levels of traffic.[63] As of June 2024, while airports in Poland, Greece, Malta, Luxembourg, Portugal, Italy and Croatia achieved higher levels of traffic than before the pandemic, airports in Finland, Slovenia, Bulgaria, Sweden and Germany remained significantly below their pre-COVID-19 levels of traffic.[64]

2.30 In general, total passenger traffic at European airports was just 0.4% above pre-pandemic levels by June 2024.[65] Moreover, despite the recovery in passenger numbers, air connectivity remained 14% below pre-pandemic levels.[66] According to ACI EUROPE's Airport Industry Connectivity Report, as of 2024, only 36% of European airports offered the same level of direct connectivity as before the pandemic.[67]

2.31 In response to these shocks and the associated challenges, the Commission decided in mid-2023 to prolong the transitional period for operating aid by three years. However, this

[60] EUROCONTROL (2024), 'European Aviation Overview', 18 January, https://www.eurocontrol.int/sites/default/files/2024-01/eurocontrol-european-aviation-overview-20240118-2023-review.pdf, accessed 22 May 2024.
[61] See also Aviation Week (2024), 'European Airports Grapple With Transformation Amid Uneven Recovery', 23 April, https://aviationweek.com/air-transport/airports-networks/european-airports-grapple-transformation-amid-uneven-recovery, accessed 26 April 2024.
[62] ACI EUROPE (2024), 'Air traffic finally above pre-pandemic levels in the first half of 2024', 31 July, https://www.aci-europe.org/downloads/mediaroom/24-07-31%20Air%20traffic%20finally%20above%20pre-pandemic%20levels%20in%20the%20first%20half%20of%202024%20PRESS%20RELEASE.pdf, accessed 5 September 2024.
[63] IATA (2021), 'Air connectivity', p. 36, https://www.iata.org/en/iata-repository/publications/economic-reports/air-connectivity-measuring-the-connections-that-drive-economic-growth/, accessed 28 March 2024.
[64] ACI EUROPE (2024), 'Air Traffic finally above pre-pandemic levels in the first half of 2024', 31 July, https://www.aci-europe.org/press-release/505-24-07-31-air-traffic-finally-above-pre-pandemic-levels-in-the-first-half-of-2024-press-release.html, accessed 5 September 2024.
[65] ACI EUROPE (2024), 'Air Traffic finally above pre-pandemic levels in the first half of 2024', 31 July, https://www.aci-europe.org/press-release/505-24-07-31-air-traffic-finally-above-pre-pandemic-levels-in-the-first-half-of-2024-press-release.html, accessed 5 September 2024.
[66] Direct connectivity refers to the number of destinations a passenger can fly to from a particular airport, without the need to take any connecting flights at another airport. ACI EUROPE (2024), 'Airport Industry Connectivity Report 2024', 2 July, https://www.aci-europe.org/downloads/publications/ACI%20EUROPE%20Airport%20Industry%20Connectivity%20Report%202024.pdf , accessed 5 September 2024.
[67] Ibid.

prolongation may not be sufficient to enable airports to cover their operating costs for two reasons.[68]

- First, the Commission already acknowledged the necessity of a prolongation of the transitional period before the onset of the COVID-19 pandemic, as indicated in its 2020 fitness checks on its state aid modernisation package.[69] The subsequent crises have significantly affected airports' profitability.

- Second, other factors that will adversely affect the financial viability of smaller regional airports do not appear to have been factored into the Commission's decision to prolong the transitional period. Such factors include the EU's Fit for 55 policies, as well as structural changes in the aviation market that have occurred following the pandemic.[70]

2.32 Therefore, the level of traffic at which airports break-even has not declined in contrast to the Commission's expectations when it introduced its 2014 Guidelines. This is primarily due to structural changes in the aviation market over the last ten years, and the recent shocks with the pandemic, the war in Ukraine and the energy crisis. In this context, it is important to reassess the appropriateness of the current thresholds for passenger traffic that determine airports' eligibility for operating aid as defined in the 2014 Guidelines.

2.33 As set out in section 3, based on a sample of airports across the EU, we have examined whether regional airports with more than 200,000ppa expect to achieve operating-cost coverage by 2027 or if there remains a need for operating aid, taking into account recent market developments.

[68] European Commission (2023), 'Communication from the Commission extending the transitional period provided for in the guidelines on State aid to airports and airlines concerning regional airports', OJ C 244, 11 July, para. 5.
[69] European Commission (2020), 'Fitness Check of the 2012 State aid modernisation package, railways guidelines and short-term export credit insurance', SWD(2020) 257 final, 30 October.
[70] This includes, for example, changes in demand and seasonality patterns following the COVID-19 pandemic, the further growth of ultra-LCCs relative to full service carriers, targeted airline consolidation and changes in airports' buyer power. See European Commission (2023), 'Communication from the Commission extending the transitional period provided for in the guidelines on State aid to airports and airlines concerning regional airports', OJ C 244, 11 July, paras 5–6, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023XC0711(01), accessed 28 March 2024.

3 Analysis of regional airports' financial position based on case studies

3.1 In this section, to complement the findings from the empirical research and to further assess the suitability of the traffic thresholds that currently determine airports' eligibility for operating aid in the 2014 Guidelines, we analyse the financial viability of a sample of regional airports in the EU of different sizes. The purpose of this analysis is to assess whether airports are likely to be able to reach operational cost coverage by the end of the transitional period in 2027.

3.2 We have obtained financial and operational data from 14 regional airports in the EU. To ensure the robustness of the results presented in this report, we have cross-checked and queried the data that we have received from the airports.

3.3 We have also undertaken interviews with the management of a number of the airports to further understand the main drivers of their profitability, including the impact of the recent crises as well as the likely impact of the Commission's Fit for 55 policies.[71]

3.4 In light of the results from the empirical research that suggest that airports are only able to achieve profitability with levels of traffic of c. 500,000ppa to 1mppa, the sample is comprised of a number of airports with fewer than 1mppa. In particular, following the Commission's classification of the size of airports in its 2014 Guidelines (see Table 2.1), the sample is comprised of:

- one airport in category 1 (i.e. fewer than 200,000ppa);
- eight airports in category 2 (i.e. traffic between 200,000ppa and 700,000ppa);
- five airports in category 3 (i.e. traffic between 700,000ppa and 3mppa).[72]

3.5 Therefore, in theory, based on passenger traffic, all airports would have been eligible for operating aid during the transitional period between 2014 and 2027.

[71] In addition, we have also interviewed a further two airports, as shown in Table 3.1, although we have not obtained financial and operational data from these airports.
[72] These traffic thresholds are based on the most recent financial year for which data is available from the airports—specifically, 2022/23.

3.6 The airports are located in 11 different EU countries: Austria, Belgium, Croatia, Finland, France, Germany, Ireland, Italy, Portugal, Romania and Slovakia.

3.7 Table 3.1 below presents an overview of the characteristics of the airports in the sample. In light of the confidentiality of the data received from the airports, we present the airports in this report only on an anonymised basis.

Table 3.1 Characteristics of the airports included in the sample

	Number of passengers (2022/23)	Category	Main airlines	Description
Airports that provided financial and operational data and participated in an interview				
Airport 1	100,000–150,000	1	LCC	Intra-Europe commercial flights
Airport 2	200,000–250,000	2	LCC, FSC	Intra-Europe commercial flights
Airport 3	250,000–300,000	2	LCC	Intra-Europe and international commercial flights
Airport 4	250,000–300,000	2	FSC	Domestic commercial flights
Airport 5	350,000–400,000	2	LCC, FSC	Intra-Europe commercial flights
Airport 6	500,000–550,000	2	LCC	Intra-Europe commercial flights
Airport 7	550,000–600,000	2	LCC, FSC	Intra-Europe commercial flights
Airport 8	550,000–600,000	2	LCC, FSC	Intra-Europe and international commercial flights
Airport 9	600,000–650,000	2	FSC	Intra-Europe and international commercial flights
Airport 10	800,000–850,000	3	LCC, FSC	Intra-Europe commercial flights
Airport 11	900,000–1,000,000	3	LCC, FSC	Intra-Europe commercial flights
Airport 12	1,000,000–1,500,000	3	LCC, FSC	Intra-Europe commercial flights
Airport 13	1,000,000–1,500,000	3	LCC, FSC	Intra-Europe and international commercial flights
Airport 14	1,500,000–2,000,000	3	LCC, FSC	Intra-Europe and international commercial flights
Airports that participated in an interview but did not provide financial and operational data				
Airport 15	200,000–250,000	2	LCC	Intra-Europe and international commercial flights
Airport 16	300,000–350,000	2	LCC, FSC	Intra-Europe commercial flights

Notes: LCC denotes low-cost carrier and FSC denotes full-service carrier. As highlighted in the table, in addition to our core sample of 14 airports, we have also interviewed the management of two further airports, although we have not obtained financial and operational data for these airports.
Source: Oxera analysis, based on information received from the airports in the sample.

3.8 In this section, we present the results from analysing the individual components that affect airports' operating profits. In particular, we consider trends in passenger numbers, aeronautical revenues, non-aeronautical revenues, operating costs as well as overall profitability in the sections below.

3.A Trends in passenger numbers

3.9 Figure 3.1 presents the evolution of passenger traffic at the airports in the sample over the period 2016 to 2023. Before 2019, annual passenger numbers at all but one of the airports in the sample either remained broadly constant or increased gradually over the period.[73] Following the onset of the COVID-19 pandemic and the associated travel restrictions, passenger traffic declined by an average of 70% among the sampled airports in 2020, and by 57% in 2021, compared with 2019.

3.10 Overall, as of 2023, passenger traffic at eight airports in the sample had recovered to 2019 levels, while traffic at the other six airports remained below 2019 levels. The recovery from the pandemic has been uneven among the airports, ranging from traffic remaining significantly (specifically 48%) below pre-pandemic (i.e. 2019) levels,[74] to full recovery,[75] and to traffic significantly (specifically 224%) exceeding 2019 levels.[76] As regional airports typically have a limited number of airlines operating at the airport, traffic may increase or decrease significantly as a consequence of attracting or losing an airline, as well as airlines introducing or discontinuing a limited number of routes.

3.11 The diverging rates of recovery are, in general, primarily driven by the following factors:

- the passenger mix, with airports with greater leisure and VFR traffic recovering more quickly; [77]
- differences in aid measures/schemes adopted by national governments to mitigate the adverse effects of the pandemic;
- differences in the locations of the airports, with airports in Northern Europe and Eastern Europe typically being more

[73] The exception was Airport 12, where passenger numbers decreased by c. 60% in 2018 as a result of a major airline stopping operating at the airport.
[74] For example, at Airport 1.
[75] For example, at Airport 11.
[76] For example, at Airport 12. The increase in traffic at this airport is due to an airline, which had previously discontinued the majority of its operations from the airport, significantly increasing its operations at the airport.
[77] These findings are consistent with IATA (2021), 'Air connectivity', p. 36, https://www.iata.org/en/iata-repository/publications/economic-reports/air-connectivity-measuring-the-connections-that-drive-economic-growth/, accessed 28 March 2024.

affected by the impact of the war in Ukraine and the closure of airspace.

Figure 3.1 Annual passenger numbers over the 2016–23 period ('000)

Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.12 Looking ahead, most airports expect passenger traffic to either remain stable or to increase in the near term, as illustrated in Figure 3.2. In particular, three out of seven category 2 airports expect their traffic to increase,[78] while all airports in category 3 expect their traffic to either increase or remain above 1mppa ahead of 2027.

3.13 According to the management of a number of the airports, traffic growth is expected as a result of the growth of LCCs and increasing leisure demand, which has driven the recovery from the pandemic. In particular, a number of airports note that, during the recovery from the pandemic, the mix of passengers

[78] Specifically, Airports 5, 7 and 9.

has changed to become more focused on leisure and VFR, with reduced levels of business travel. As leisure travel tends to be more seasonal than business travel, some of the airports in the sample have highlighted that this has resulted in a significant degree of seasonality at the airport, which creates challenges in terms of the airports being able to efficiently manage their cost base, and in particular, to ensure an efficient level of staffing.[79]

3.14 A number of the airports have noted the decline in business traffic following the pandemic, with airports highlighting that remote working and video conferences have negatively affected the number of business passengers.[80] As an example, one of the airports does not expect its passenger traffic to return to 2019 levels before 2027 due to the airport's reliance on the recovery in business travel in Germany and limited leisure passenger traffic from the airport's catchment area.[81] Other airports have experienced challenges due to some charter airlines entering into bankruptcy during the pandemic.

3.15 Some airports have also highlighted that some LCCs as well as some full service carriers ('FSCs') are more carefully considering the routes they serve due to aircraft engine issues and problems sourcing new aircraft.[82] This has contributed towards an increase in the degree of competition between regional airports and the larger, hub, airports. Indeed, a number of the airports have highlighted that air carriers are implementing cost and

[79] As an example, passenger traffic in the summer season at Airport 11 is now c. 7x higher than in the winter season.
[80] Such as Airports 9, 11 and 16. See also Chen, T., Fu, X., Hensher, D.A., Li, Z. and Sze, N.N. (2022), 'Air travel choice, online meeting and passenger heterogeneity–An international study on travellers' preference during a pandemic', November, *Transportation Research Part A: Policy and Practive*, 165, 439–453.
[81] Traffic in Germany has been relatively slow to recover compared to other Member States, with average daily flights remaining 20% below their pre-COVID-19 (i.e. 2019) level in 2023. This is due to a slow recovery of domestic aviation (with domestic traffic in 2023 at only 63% of 2019 figures) as well as a slow recovery of traffic at hub airports and lower demand for international business travel to Germany compared to prior to COVID-19. See EUROCONTROL (2024), 'European Aviation Overview', 18 January, https://www.eurocontrol.int/sites/default/files/2024-01/eurocontrol-european-aviation-overview-20240118-2023-review.pdf, accessed 22 May 2024; and ETIAS (2023), 'European Business Travel on the Road to Recovery, But Uneven Progress Across Region', 26 November, https://etias.com/articles/europe-business-travel-recovery-trends, accessed 22 May 2024.
[82] Several European airlines have been adversely affected by the delayed deliveries of aircraft. For instance, see Barnier, L. (2024), 'Face à la << débâcle >> de Boeing, Ryanair demande des compensations financières', *La Tribune*, 26 February, https://www.latribune.fr/entreprises-finance/industrie/aeronautique-defense/face-a-la-debacle-de-boeing-ryanair-demande-des-compensations-financieres-991458.html, accessed 17 May 2024; Financial Times (2023), 'Wizz Air cuts profit forecast as groundings threaten growth plans', 9 November, https://www.ft.com/content/3079bd17-c876-4bae-b633-7700ea4c840d, accessed 17 May 2024; and Business Standard (2023), 'Engine trouble grounds third of Airbus A220 fleet in Zurich, says Lufthansa', 3 May, https://www.business-standard.com/world-news/lufthansa-says-engine-trouble-grounds-third-of-airbus-a220-fleet-in-zurich-123050300911_1.html, accessed 17 May 2024.

route optimisation strategies due to production problems at some of the main aircraft manufacturers, with some airlines forced to reduce their schedules as a result of the lack of available aircraft.[83]

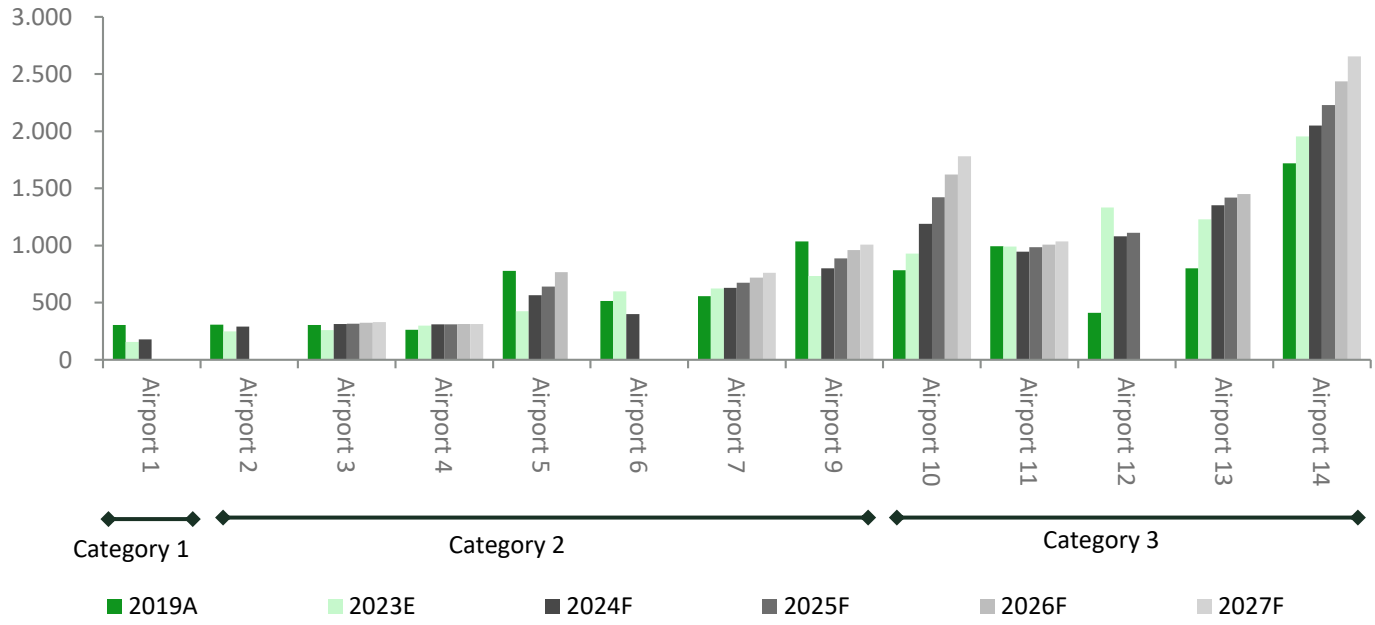
3.16 Some of the airports highlight that both LCCs and FSCs have reduced their presence at regional airports following the pandemic.[84] In particular, some FSCs have reduced their domestic operations. For example, Air France has announced that it will stop providing domestic flights to/from Paris Orly as of 2026 in light of the decline in domestic business traffic and the shift towards rail, which could adversely affect regional airports such as Toulouse, Marseille and Nice.[85] At the same time, LCCs have increasingly focused on serving primary and hub airports, in light of the potential for higher yields.[86] It is possible that this change in the strategy of LCCs could become permanent, which could, at least in part, be the result of the increase in costs that airlines will face as a result of the EU's Fit for 55 regulatory framework, for example. It is plausible that such cost increases might lead to airlines targeting higher yields, which in turn would imply giving priority to airports serving markets with higher yields.

3.17 Airports that either had direct connections to/from airports in Russia or Ukraine, or served airlines that operated feeder routes

[83] For example, the main airlines at Airports 6, 8 and 14 have reallocated capacity away from the airports in question. Airport 8 noted that they are working closely with airlines, tourism authorities, and other stakeholders to increase the airports' attractiveness to airlines and passengers through incentive programmes, infrastructure improvements, and customer service enhancements.
[84] Furthermore, some EU member states have restricted, or are in the process of restricting, short-haul domestic flights to promote the use of high-speed rail. For example, in 2023, France banned, under certain conditions, direct and connecting domestic flights which can be substituted with a rail journey below 2.5 hours. Similarly, Spain has announced its intention to ban domestic flights that can be substituted with a rail journey below 2.5 hours, excluding connecting flights to the hub airports in Spain. Direction de l'information légale et administrative (2023), 'Certains vols intérieurs de courte durée supprimés', 24 May, https://www.service-public.fr/particuliers/actualites/A16193, accessed 16 May 2024; and Business Travel News Europe (2024), 'Spain proposes ban on short-haul domestic flights', 7 March, https://www.businesstravelnewseurope.com/Air-Travel/Spain-proposes-ban-on-shorthaul-domestic-flights, accessed on 16 May 2024.
[85] Air France (2023), 'Initiative aimed at evolving Air France's domestic flight service to and from Paris by 2026', 18 October, Initiative aimed at evolving Air France's domestic flight service to and from Paris by 2026, accessed 17 May 2024; Reuters (2023), 'Air France to stop most domestic flights from Orly airport by 2026', 18 October, https://www.reuters.com/business/aerospace-defense/air-france-stop-most-domestic-flights-orly-airport-by-2026-2023-10-18/, accessed 17 May 2024; LaDepeche.fr (2023), 'Dossier, Coup de tonnerre dans le ciel toulousain : Air France annonce l'arrêt de ses 16 vols quotidiens entre Toulouse et Paris Orly pour 2026', 18 October, https://www.ladepeche.fr/2023/10/18/air-france-annonce-la-fin-de-la-navette-entre-toulouse-et-paris-orly-pour-2026-11528257.php, accessed 17 May 2024; and France Bleu (2023), 'Air France va supprimer la ligne Orly – Marseille', 18 October, https://www.francebleu.fr/infos/economie-social/air-france-va-supprimer-la-ligne-orly-marseille-7553715, accessed 17 May 2024.
[86] See Centre for Aviation (2019), 'LCCs increasingly attracted to primary airports', 22 February, https://centreforaviation.com/analysis/reports/lccs-increasingly-attracted-to-primary-airports-459531, accessed 17 May 2024; and European Parliament (2019), 'Low cost air carriers and tourism', European Parliamentary Research Service, November.

to hub airports with direct connections to/from airports in Russia or Ukraine,[87] do not foresee their passenger traffic recovering to pre-pandemic levels in the near term. Russia's invasion of Ukraine and the subsequent closure of airspace has led to a significant decrease in the number of routes offered by airlines operating at these airports. Some of the airports have also been affected by Russian airlines no longer operating in Europe. While the airports have tried to incentivise existing airlines to operate alternative routes or to attract new airlines, the airports have, in general, not been able to replace the 'lost' traffic.[88]

Figure 3.2 Forecast annual passenger numbers ('000)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of passenger numbers.
Source: Oxera analysis, based on forecasts provided by the airports in the sample.

3.18 At the time of the introduction of its 2014 Guidelines, the Commission assumed that regional airports could attract new airlines and passengers to help them to achieve profitability.[89]

[87] Such as Airports 1, 2 and 5.
[88] As an example, Airport 1 expects only moderate year-on-year growth in passenger traffic beyond 2024 if Russian airspace remains closed.
[89] European Commission (2014), op. cit., para. 13.

However, the evidence from the airports in the sample shows that, prior to the recent crises, passenger traffic at the majority of the airports either remained broadly constant or increased gradually. While traffic at half of the airports in the sample had recovered to or exceeded pre-pandemic levels as of 2023, the majority of the airports expect passenger traffic to either remain stable or to only gradually increase in the next few years ahead of 2027. In particular, the evidence from the sample shows that category 1 and category 2 airports have not been able to significantly increase their levels of traffic, in contrast to the Commission's assumptions at the time of the introduction of the 2014 Guidelines.

3.B Trends in aeronautical and non-aeronautical revenues

3.19 In this section, we discuss the main trends in airports' aeronautical and non-aeronautical revenues over time.

3.B.1 Aeronautical revenues

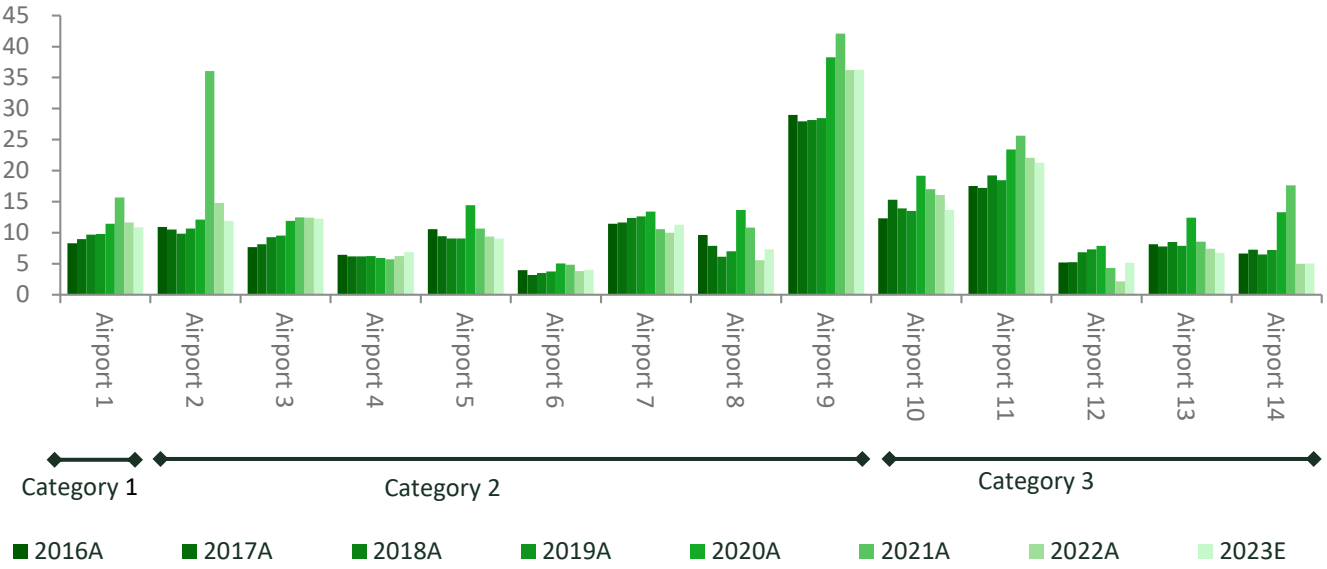
3.20 Figure 3.3 shows the evolution of aeronautical revenues per passenger net of incentive payments to airlines (which we subsequently refer to as aeronautical revenues) at the airports in the sample over the 2016–23 period.

3.21 Before 2019, there were noticeable differences in the level of aeronautical revenues per passenger across the airports in the sample. In particular, as of 2019, aeronautical revenues at the airports in the sample varied from €6 per passenger to €28 passenger.

3.22 At most of the airports in the sample, aeronautical revenues per passenger recovered to their 2019 levels in 2023.[90] However, the pandemic has further exacerbated the differences, with aeronautical revenues per passenger at some airports recovering more quickly than at other airports. As of 2023, aeronautical revenues ranged from €4 per passenger to €36 per passenger.

[90] Airports 9 and 11 recorded the strongest recovery in aeronautical revenues per passenger of c. +27% and +16% respectively in 2023 relative to 2019. In contrast, aeronautical revenues per passenger declined by c. 30% in 2023 relative to 2019 at Airport 14 despite passenger traffic at the airport increasing by 17% in 2023 relative to 2019. This is due to some of the main airlines operating from the airport experiencing difficulties sourcing new aircraft, which adversely affected their ability to launch new routes from the airport. Therefore, the airport significantly increased discounts to its published airport charges—specifically, by more than 190% compared with 2019 levels—to attract new airlines.

Figure 3.3 Aeronautical revenues net of incentive payments per passenger over the 2016–23 period (€)

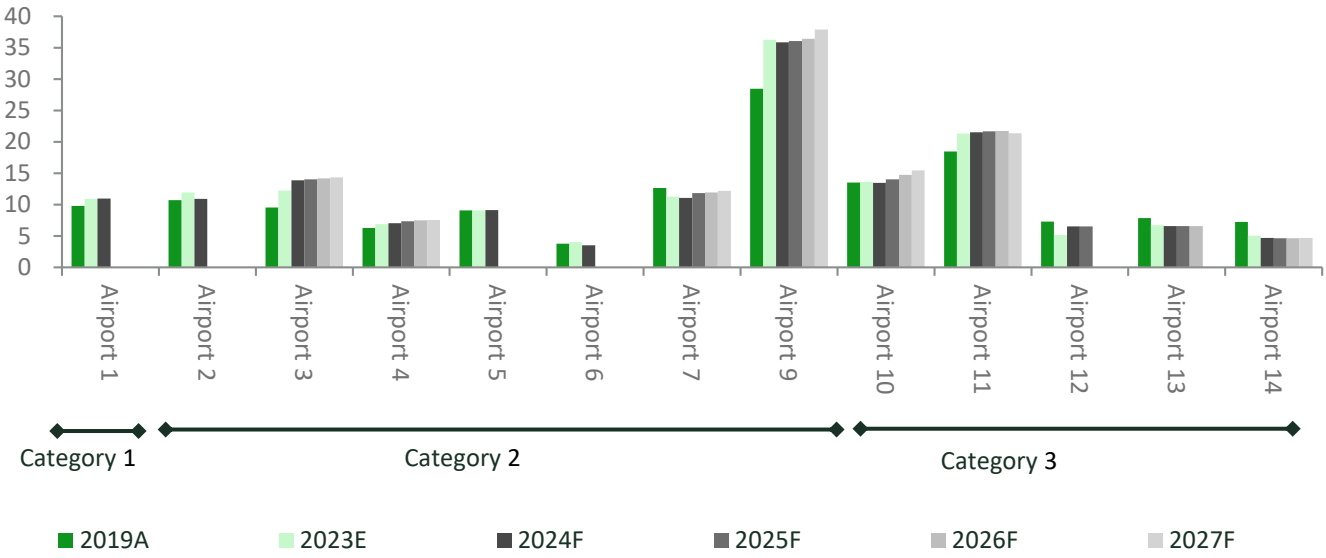


Notes: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. The high values of aeronautical revenues net of incentive payments per passenger in 2020 and 2021 are due to the very low levels of traffic at the airports in light of the travel restrictions during the COVID-19 pandemic.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.23 Figure 3.4 presents the airports' forecasts of aeronautical revenues per passenger. The majority of the airports forecast either aeronautical revenues per passenger to remain relatively constant or to marginally increase over the next few years.[91] As such, most of the airports in the sample typically do not expect to be able to significantly increase aeronautical charges net of incentive payments over the next few years.

[91] Airports 3, 4, 9, 10 and 11 expect their aeronautical revenues per passenger to marginally increase, in line with their expectations of continued growth in passenger numbers. Although Airports 7, 13 and 14 expect growth in passenger numbers, the airports expect their aeronautical revenues per passenger to remain below pre-pandemic levels in the near term.

Figure 3.4 Forecast aeronautical revenues net of incentive payments per passenger (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of aeronautical revenues per passenger net of incentive payments.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.24 In Box 3.1 below, we discuss the trends in incentive payments provided by the airports in the sample to airlines.

Box 3.1 Incentive payments to airlines

Airports often offer incentive payments to attract airlines, which can either take the form of discounts on published airport charges or incentive payments.

In our sample, seven airports report incentive payments to airlines separately from their aeronautical revenues. Of these airports, the majority either increased the incentive payments they provided to airlines or started to provide incentive payments to airlines—both LCCs and FSCs—during the recovery from the pandemic.

The incentive payments offered by three airports in the sample increased significantly—by at least c. 40%—during the pandemic and the recovery from the pandemic. The management of one of the airports explained that the increase in incentive payments was due to airlines having significant bargaining power in relation to regional airports.

Looking forward, three of the airports expect the incentive payments that they provide to airlines to remain above pre-COVID-19 levels over the next few years.

Source: Oxera

3.25 The evidence from the sample of airports regarding the importance of incentive payments for both LCCs and FSCs is consistent with the intentions announced by airlines in the public domain. For example, easyJet's Director of Network and Airports noted that easyJet is prioritising airports that can offer 'great incentives'.[92] The importance of the overall level of costs is also evident from Wizz Air's announcement that it has closed bases, such as in Cardiff in the UK, due to 'high operational

[92] Casey, D. (2022), 'EasyJet's Seasonal Flexibility 'Here to Stay', *Aviation Week*, 25 May, available at: https://aviationweek.com/air-transport/airports-networks/easyjets-seasonal-flexibility-here-stay (last accessed on 16 May 2024).

costs'.[93] Ryanair has also announced the closure of bases due to high costs, such as its base at Ponta Delgada in the Azores.[94]

3.26 Furthermore, there are examples of FSCs using the threat of switching to increase their bargaining power and negotiate more favourable terms.[95] For instance, Lufthansa noted in 2018 that it is 'increasingly able to move fleets and traffic wherever the conditions are best for quality, growth and profitability'.[96]

3.27 In interviews with the management of the regional airports, a number of the airports have highlighted that, due to structural changes in the aviation market, the bargaining power of regional airports has declined over recent years for two main reasons.

- **First, the degree of consolidation within the airline sector in Europe.** The five largest airline groups in Europe accounted for nearly 60% of all flights within Europe as of 2023, with potential for further consolidation in the sector in the near future. In particular, in July 2024, the Commission approved the purchase of a stake in ITA Airways by the Lufthansa Group, and in August 2024, the Air France/KLM Group announced that it had completed an acquisition of a non-controlling stake in SAS.[97] Furthermore, a number of airports in the sample reported that the strengthened bargaining position of airlines puts pressure on the aeronautical charges that can be levied by the airports, and leads to higher incentive payments being offered by the airports.

- **Second, increasing competition from larger or hub airports.** Some airports in the sample note that some LCCs are

[93] Aerotime Hub (2023), 'Wizz Air to close Cardiff base in UK due to 'high operational costs'', 1 November, https://www.aerotime.aero/articles/wizz-air-to-close-one-of-nine-uk-bases-due-to-high-operational-costs, accessed 17 May 2024.
[94] ch-aviation (2024), 'Ryanair says fee hike "killed" Ponta Delgada, Azores base', 12 February.
[95] See also Oxera (2017), 'The continuing development of airport competition in Europe', 15 September, pp. 42–44.
[96] Lufthansa Group (2018), 'Shareholder information', November, https://investor-relations.lufthansagroup.com/fileadmin/downloads/en/financial-reports/shareholder-info/LH-shareholder-info-2018-11-e.pdf, accessed 16 May 2024.
[97] European Commission (2024), 'Commission clears proposed acquisition of stake in ITA Airways by Lufthansa, subject to conditions', Press Release, 3 July, https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3604, accessed 10 September 2024 and Air France-KLM (2024), 'The Air France-KLM Group completes acquisition of a non-controlling stake in the share capital of SAS AB. Extensive commercial cooperation to begin September 1, 2024', 28 August, https://www.airfranceklm.com/en/newsroom/air-france-klm-group-completes-acquisition-non-controlling-stake-share-capital-sas-ab, accessed 10 September 2024. See also ACI EUROPE (2023), 'Fierce competitors, fragile foes – competition between airports in Europe', p. 11; and Georgiadis, P. and Hancock, A. (2023), 'European airlines in deal drive to boost profits and open up routes', *Financial Times*, 18 October.

increasingly prioritising their operations at primary or hub airports, which could be part of their strategy to facilitate connections with FSCs, including those serving intercontinental routes, in order to achieve higher yields.[98] At the same time, another airport[99] notes that FSCs are also increasingly focusing on hub airports, and are withdrawing their operations from regional airports, particularly on domestic routes. Based on discussions with the airport's management, this is partly a result of the difficulties experienced by airlines in sourcing new aircraft, which means that airlines need to more carefully consider which routes to operate.

3.28 Overall, based on our sample, airports' aeronautical revenues per passenger have broadly recovered to 2019 levels. However, the airports do not expect to be able to significantly increase aeronautical charges over the next few years, primarily as a result of the above trends in the market which contribute towards airlines, both LCCs and FSCs, requiring higher incentive payments, or greater discounts on published charges. Therefore, in contrast to the Commission's assumptions at the time of the introduction of the 2014 Guidelines,[100] the majority of the airports in the sample have not been able to increase airport charges net of incentive payments.

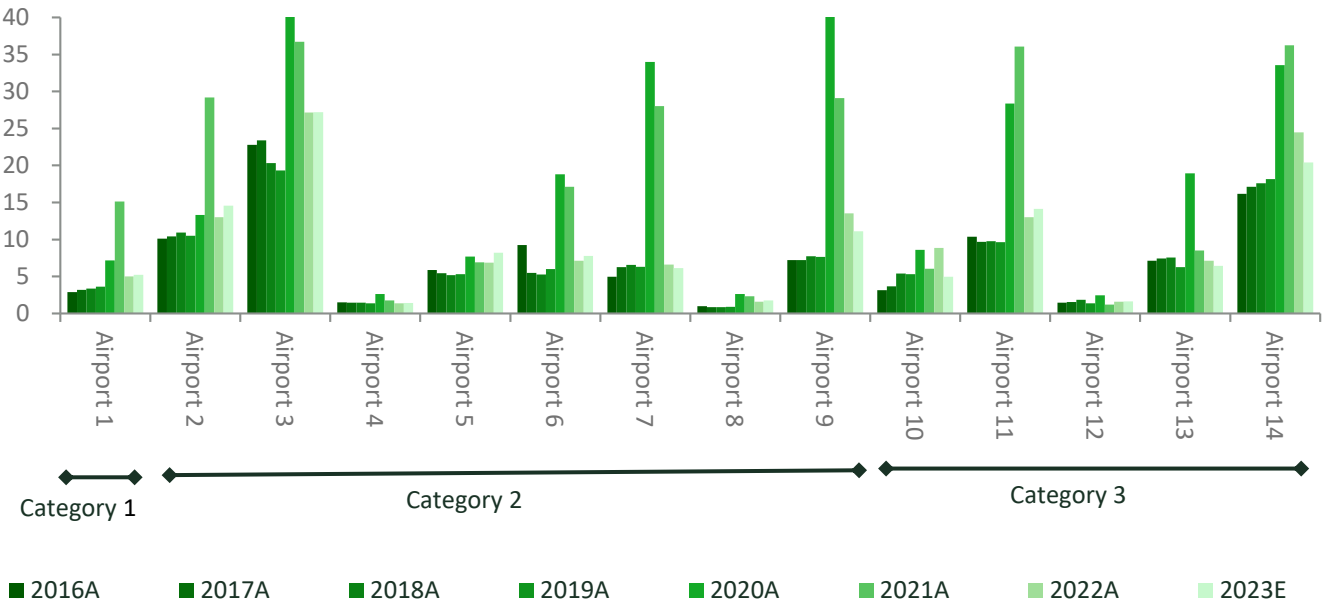
3.B.2 Non-aeronautical revenues

3.29 While aeronautical revenues are expected to remain the primary income source for regional airports in the near future, non-aeronautical revenues are becoming increasingly important in broadening the revenue sources of regional airports. Empirical research has shown that the promotion of commercial and other non-aeronautical activities helps airports to achieve financial viability.[101]

[98] This is consistent with findings from other studies. See, for example, CAPA (2019), 'LCCs increasingly attracted to primary airports', 22 February, https://centreforaviation.com/analysis/reports/lccs-increasingly-attracted-to-primary-airports-459531, accessed 10 April 2024.
[99] Specifically, Airport 16.
[100] European Commission (2014), op. cit., para. 13.
[101] Chin, A. T. and Ong, D. L. T. (2014), 'Airport revenue management: does airport size matter?', *Academy of World Business, Marketing and Management Development Conference Proceedings*, **6**:1; Minato, N. and Morimoto, R. (2011), 'Designing the Commercial Sustainability of Unprofitable Regional Airports Using System Dynamics Analysis', *Research in Transportation and Business Management*, **1**:1; Adler, N. Ülkü, T. and Yazhemsky, E. (2013), 'Small regional airport sustainability: Lessons from benchmarking', *Journal of Air Transport Management*, **33**, October; Fageda, X. and Voltes-Dora, A. (2012), 'Efficiency and profitability of Spanish airports: a composite non-standard

3.30 Figure 3.5 presents the evolution of non-aeronautical revenues at the airports in the sample.[102] Non-aeronautical revenues per passenger have remained relatively stable from 2016 onwards (excluding the 2020–21 period).[103] As of 2023, at 12 out of the 14 airports in the sample, non-aeronautical revenues per passenger have recovered to 2019 levels.[104]

Figure 3.5 Non-aeronautical revenues per passenger over the 2016–23 period (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. The very high values of non-aeronautical revenues per passenger in 2020 and 2021 are due to the very low levels of traffic at the airports in light of the travel restrictions during the COVID-19 pandemic.

profit Function approach', Universitat de Barcelona; National Academies of Sciences, Engineering, and Medicine (2010), 'Airport Revenue Diversification', *The National Academies Press*.

[102] Non-aeronautical revenues include mainly retail and parking revenues, which vary directly with the level of passenger traffic, as well as rental income, which does not vary directly with the level of passenger traffic.

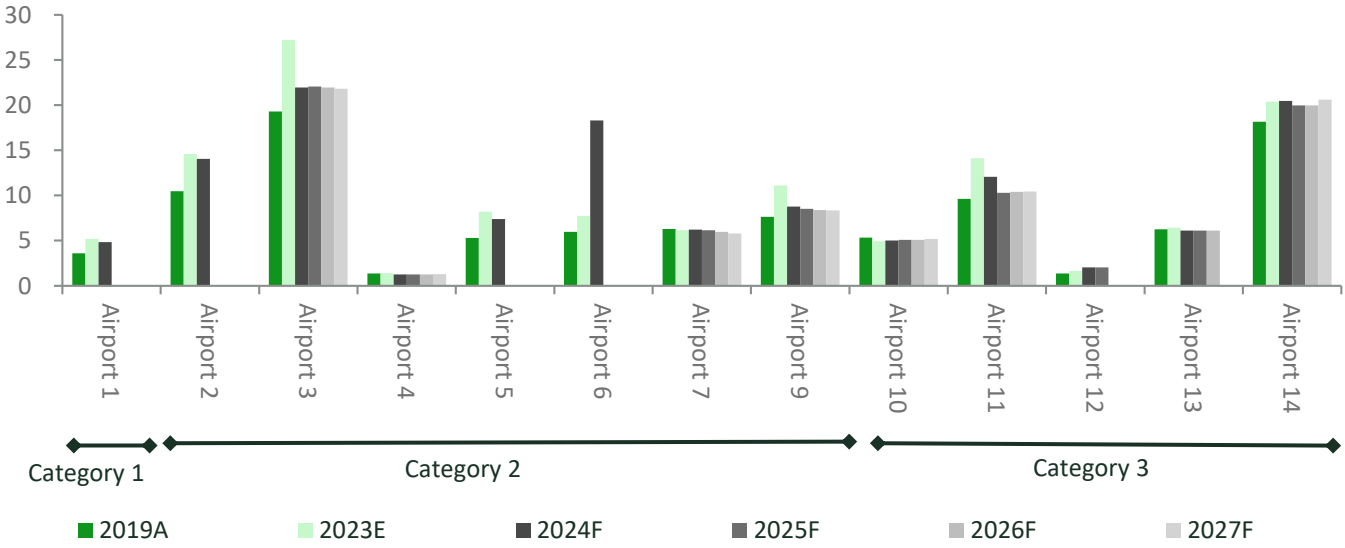
[103] We note that a large proportion of the non-aeronautical revenues reported by Airports 3 and 6 relates to public funding that the airports have received to cover their operating and investment expenses. We do not have the necessary data to be able to exclude public funding from the airports' non-aeronautical revenues. However, any public funding in the form of operating aid has been excluded from the analysis of airports' profitability that is presented in this report.

[104] While non-aeronautical revenues per passenger have increased at a relatively stable rate over time (excluding the period of travel restrictions during the COVID-19 pandemic) at Airports 1, 2 and 14, within the sample, Airport 10 has achieved the greatest percentage increase in non-aeronautical revenues, with non-aeronautical revenues per passenger increasing by 57% from €3 per passenger in 2016 to €5 per passenger in 2023. This is due to an expansion of advertisement, lounge and fuel services at the airport.

Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.31 Figure 3.6 shows the forecasts of non-aeronautical revenues per passenger provided by the airports in our sample for the period up to, and including, 2027. Approximately half of the airports in our sample expect their non-aeronautical revenues per passenger to slightly increase compared with 2019, with four of the airports planning investments in their retail services and other commercial activities.[105] In contrast, the other half of the sample expect their future non-aeronautical revenues per passenger to remain at similar levels as in 2019.

Figure 3.6 Forecast non-aeronautical revenues per passenger (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of non-aeronautical revenues per passenger.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.32 The airports' expectations of either stable or limited growth in non-aeronautical revenues per passenger reflects regional airports' more limited ability to develop their non-aeronautical activities. The empirical literature suggests that there is a direct link between the commercial environment at the terminal (i.e. the level of non-aeronautical activities such as retail

[105] Specifically, Airports 3, 9, 11 and 14.

establishments and rental spaces etc) and the propensity of passengers to spend at the retail outlets.[106]

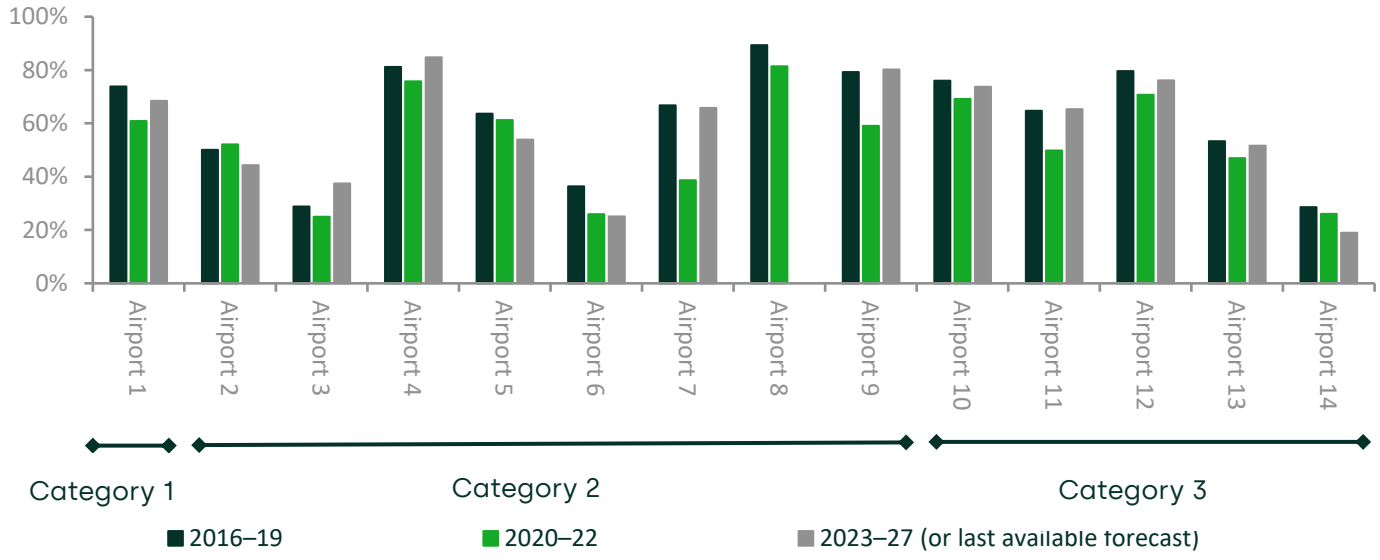
3.33 A number of airports in our study reported having implemented initiatives to increase non-aeronautical revenues, including producing renewable energy from solar parks.[107] However, the majority of airports in the sample report that they do not plan to prioritise investments on non-aeronautical activities going forwards in light of financial difficulties caused by the pandemic and the energy crisis. Indeed, a number of the airports highlighted that the greater share of leisure traffic leads to greater seasonality, which complicates airports' ability to efficiently manage their cost base, and hence their ability to finance new investments.

3.34 Figure 3.7 presents the share of each airport's aeronautical revenues relative to both its aeronautical and non-aeronautical revenues (netting off incentive payments to airlines).[108] While aeronautical revenues are expected to remain the primary source of revenues for the airports in the sample in the near future, there is no clear pattern based on the size of the airport in terms of the relative importance of aeronautical revenues.

3.35 Prior to the onset of the COVID-19 pandemic, airports' average share of aeronautical revenues to total revenues varied from 29%[109] to 89%.[110] In the near term, the majority of the airports expect their share of aeronautical revenues relative to total revenues to revert to their pre-COVID-19 2019 levels.

[106] Del Chiappa, G., Loriga, S. and Meleddu, M. (2020), 'Determinants of travellers' expenditures at airports', *European Journal of Tourism Research*.
[107] As a further example, while not included in our sample of the airports for the study, Groningen Airport in the Netherlands has carried out various net zero investments, with the aim of having fully emissions-free ground operations by 2030. In particular, the airport has recently developed a 22MW solar park in collaboration with the energy solution company, GroenLeven. The solar park, which has been operational since 2020, is the world's largest solar park at an airport with air traffic control.
[108] Incentive payments to airlines have been netted off aeronautical revenues presented in both the numerator as well as the denominator.
[109] At Airport 14.
[110] At Airport 8.

Figure 3.7 Average share of aeronautical revenues relative to total aeronautical and non-aeronautical revenues (%)



Note: Incentive payments to airlines have been netted off aeronautical revenues presented in both the numerator and the denominator. Airport 8 has not provided forecasts of revenues for 2023–27.
Source: Oxera analysis, based on financial and operational data provided by the airports in the sample.

3.C Trends in operating costs

3.36 Figure 3.8 shows the evolution of operating costs per passenger for the airports in the sample over the 2016–23 period. Salaries and wages represent, on average, the largest component of operating costs for the airports in the sample.

3.37 Operating costs per passenger for most airports in the sample were higher in 2022 than in 2019. In 2022, the final year for which we consistently have data on airports' actual costs, average operating costs ranged from €6 per passenger[111] to €40 per passenger.[112]

- Operating costs per passenger for most airports in our sample peaked in the years 2020 and 2021, during which COVID-19-related travel restrictions were in place. The increase in operating costs per passenger can be explained by the substantially reduced number of passengers, as shown in

3.38 Figure 3.1, combined with the high proportion of costs that are fixed at an airport. As set out in the Commission's 2014

[111] At Airport 8.
[112] At Airport 9.

Guidelines, 70–90% of airport's costs are typically fixed.[113] The high proportion of airports' costs that are fixed, and the importance of economies of scale to achieve profitability have been well documented in the literature.[114]

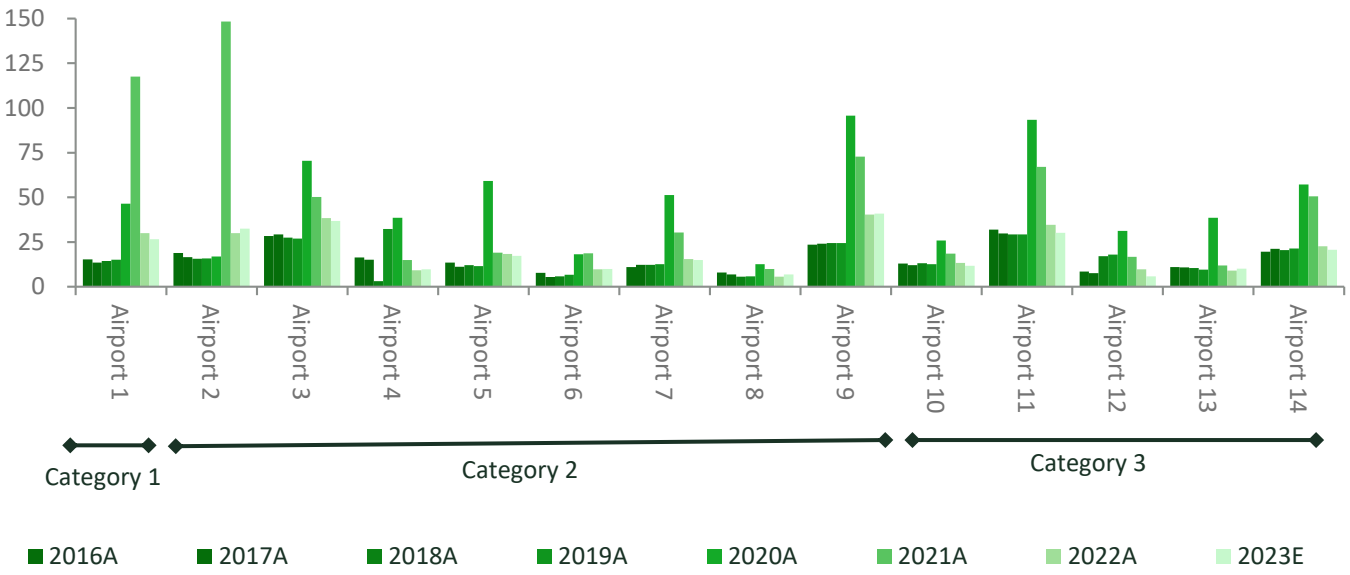
3.39 The increase in operating costs per passenger during 2020 and 2021 occurred despite various cost reduction efforts by the airports in our sample, which were on average able to reduce their absolute levels of operating costs by c. 26% in 2020 compared with 2019.[115] Cost reduction measures introduced by airports during the pandemic included limiting the airport's operational hours and reducing the number of hours worked by staff, with incentives for staff to leave or retire early.

3.40 However, by 2022, in general, the average absolute level of operating costs of the airports in our sample already exceeded 2019 levels, reflecting the impact of the energy crisis and the high inflationary environment. This is despite a number of airports introducing cost-reduction and energy-saving measures such as reducing the airport's operating hours, switching off lighting in specific areas of the airport, as well as more regular monitoring of the airport's energy use.[116]

3.41 Operating costs per passenger at a number of the airports in the sample have returned to broadly similar levels compared with prior to the energy crisis. However, in 2022 and 2023, operating costs per passenger at six airports in the sample remained significantly above levels prior to the COVID-19 pandemic.[117] This is consistent with passenger traffic not having fully recovered at these airports, as well as the high inflationary environment.

[113] European Commission (2014), op. cit., fn. 83.
[114] For instance, see ACI (2015), 'ACI Economics Report', as cited in Mott Macdonald (2017), 'Air Transport Market 2016', p. 100; Fuerst, F. and Gross, S. (2018), 'The commercial performance of global airports', *Transport Policy*, **61**, pp. 123–131.
[115] This figure includes depreciation. If depreciation is excluded, the airports in our sample were able to reduce their absolute levels of operating costs by c. 34% in 2020 compared with 2019.
[116] Although this does not have a direct impact on operating costs (excluding depreciation and amortisation), some of the airports also reported having delayed investments.
[117] Specifically, at Airports 1, 2, 3, 5, 6 and 9.

Figure 3.8 Operating costs per passenger (excl. depreciation, amortisation and incentive payments) over the 2016–23 period (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. The exceptionally high values of operating costs per passenger in 2020 and 2021 are due to the very low levels of traffic at the airports in light of the travel restrictions during the COVID-19 pandemic.
Source: Oxera analysis, based on financial and operational data provided by the airports in the sample.Given that fixed costs represent a significant proportion of an airport's operating costs, for regional airports, efforts to reduce costs per passenger are likely to remain heavily dependent on increasing the number of passengers. In particular, there seems to be limited scope for regional airports to introduce additional cost reduction measures to realise the cost rationalisation envisaged by the Commission at the time of its introduction of the 2014 Guidelines.

3.42 Figure 3.9 below shows the airports' forecasts of operating costs per passenger, in addition to the airports' actual data on operating costs per passenger for 2019 as a point of reference. The majority of airports in the sample expect their operating costs per passenger over the 2023–27 period to exceed 2019 levels. In particular,

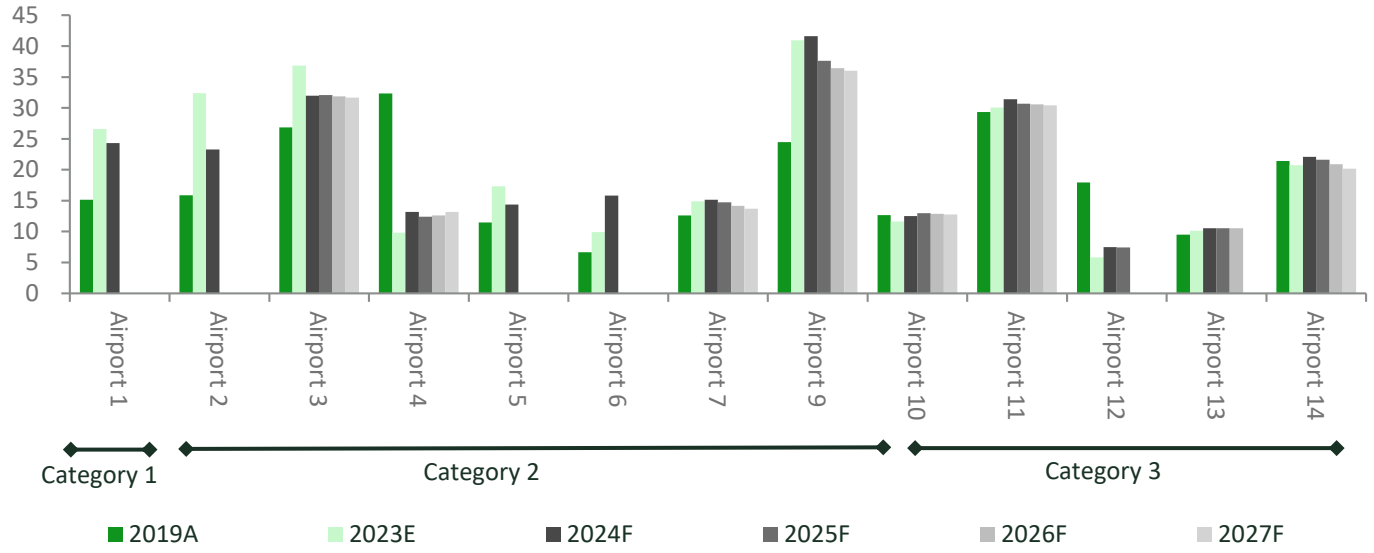
- while still higher than 2019 levels, five airports expect their operating costs per passenger to decrease in the short term, in line with their expectation of the continued recovery of

passenger traffic.[118] However, these airports do not anticipate that their operating costs per passenger will return in the short term to levels observed prior to the pandemic;

- six airports forecast operating costs per passenger to remain broadly constant;[119]
- one airport anticipates operating costs per passenger to increase.[120]

3.43 Given that fixed costs represent a significant proportion of an airport's operating costs,[121] for regional airports, efforts to reduce costs per passenger are likely to remain heavily dependent on increasing the number of passengers. In particular, there seems to be limited scope for regional airports to introduce additional cost reduction measures to realise the cost rationalisation envisaged by the Commission at the time of its introduction of the 2014 Guidelines.[122]

Figure 3.9 Forecast operating costs per passenger (excl. depreciation, amortisation and incentive payments) (€)



[118] Specifically, Airports 1, 2, 3, 5 and 9. We note that Airport 4 expects significantly lower operating costs per passenger over the 2023–27 period compared with 2019. This is due to the airport having incurred significant one-off other operating expenses in 2019.
[119] Specifically, Airports 7, 10, 11, 12, 13 and 14.
[120] Specifically, Airport 6.
[121] The 2014 Guidelines acknowledge that 70% to 90% of an airport's costs are fixed. European Commission (2014), 'Guidelines on State aid to airports and airlines', Official Journal of the European Union, C 99/3, 4 April, op. cit., para. 89 and fn. 83.
[122] European Commission (2014), op. cit., para. 13.

Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of operating costs per passenger.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.44 Airports may also receive public funding for their non-economic activities, which, under certain circumstances, may not constitute state aid.[123] Non-economic costs refer to those costs relating to activities such as air traffic control, police, customs, firefighting and activities necessary to safeguard civil aviation against acts of unlawful interference.[124] Based on the Commission's guidance, these activities can be considered not to be within the scope of state aid rules if there is a mechanism that ensures that the member state in question cannot discriminate between airport operators with respect to the public financing of such activities.[125]

3.45 Although we did not receive sufficiently comprehensive data from the airports in our sample to assess trends in public funding of non-economic costs, based on interviews with the management of the airports in the sample, there are significant differences between member states in terms of the treatment of non-economic costs.

- Three airports in our sample received public funding that fully covered the costs of their non-economic activities.[126]
- Four airports received some public funding that contributes towards funding their non-economic costs, although it does not fully cover their costs.[127]
- Six airports reported not receiving any public funding towards the costs of their non-economic activities.[128]

[123] European Commission (2014), op. cit., para. 36.
[124] European Commission (2014), op. cit., para. 35.
[125] European Commission Decision (2017), 'State Aid SA.44377 (2016/NN) – Denmark - Aarhus Airport', 9 August, para. 31.
[126] Specifically, Airports 2, 3 and 16.
[127] Specifically, Airports 5, 6, 8 and 14.
[128] Specifically, Airports 1, 4, 10, 11, 12, 13. It should be noted that Airport 7 does not incur non-economic costs and Airport 9 does not receive state funding; however, it is able to pass on the cost of its non-economic activities through airport charges.

3.46 Some airports in the sample also reported that they do not incur all the costs of all non-economic activities carried out at the airport, as some services, such as air traffic control, police or customs are provided by other entities.[129] As such, part of the costs relating to non-economic activities are not captured in the financial statements of these airports.

3.47 Non-economic costs that are not covered by member states leads to a reduction in the profitability of the airport. In some member states, such as France, public authorities have withdrawn border-control services provided at certain regional airports.[130] A number of airports in the study also reported that non-economic costs are increasing as a consequence of the high inflationary environment, the need to undertake investments such as, for example, in next-generation 3D security scanners, and stricter regulation relating to safety and security costs.

3.D Trends in profitability

3.48 Based on the trends in revenues and costs described above, in this section, we discuss the overall trends in the profitability of the airports in our sample, using different measures of profitability.

3.D.1 Trends in Earnings Before Interest, Tax, Depreciation and Amortisation ('EBITDA')

3.49 Figure 3.10 shows the evolution of earnings before interest, taxes, depreciation and amortisation ('EBITDA') for the airports in our sample.[131] For most of the airports in our sample, profitability levels have not trended upwards during the 2016–23 period. As expected, the majority of the airports in our sample incurred significant losses in 2020, with most of the airports also having negative EBITDA in 2021 during the COVID-19 pandemic.

[129] For example, Airports 3, 7 and 12 reported that certain costs relating to non-economic activities such as air traffic control, police or customs are not incurred by the airport, but are instead incurred by other entities.
[130] Trévidic, B. (2016), '13 aéroports privés de postes frontières', *Les Echos*, 28 September, https://www.lesechos.fr/2016/09/13-aeroports-prives-de-postes-frontieres-233810, accessed 17 May 2024.
[131] Our EBITDA estimates, where possible, exclude any non-economic costs, as well as any compensation from public sources towards non-economic costs. This is consistent with the definition of airports' revenues, operating costs and the operating funding gap in the 2014 Guidelines, which determines the amount of operating aid that airports can receive under the Guidelines. Airports can, under certain conditions, receive separate funding for their non-economic costs. We have also excluded any operating aid received from the airports from the EBITDA estimates. European Commission (2014), op. cit., paras 25 and 35.

3.50 Based on their financial projections, seven of the airports in the sample expect to return to profitability in 2023.[132] However, only a limited number of the airports in our sample have consistently been able to generate positive EBITDA over the 2016–23 period, even when disregarding 2020 and 2021 when COVID-19-related travel restrictions were in place.

3.51 The findings show that there is a positive relationship between the size of the airports in our sample and their ability to generate positive EBITDA.

- Airports with fewer than, or in the region of, 500,000ppa have generally been loss making or have generated only very limited profits over the 2016–23 period.[133]

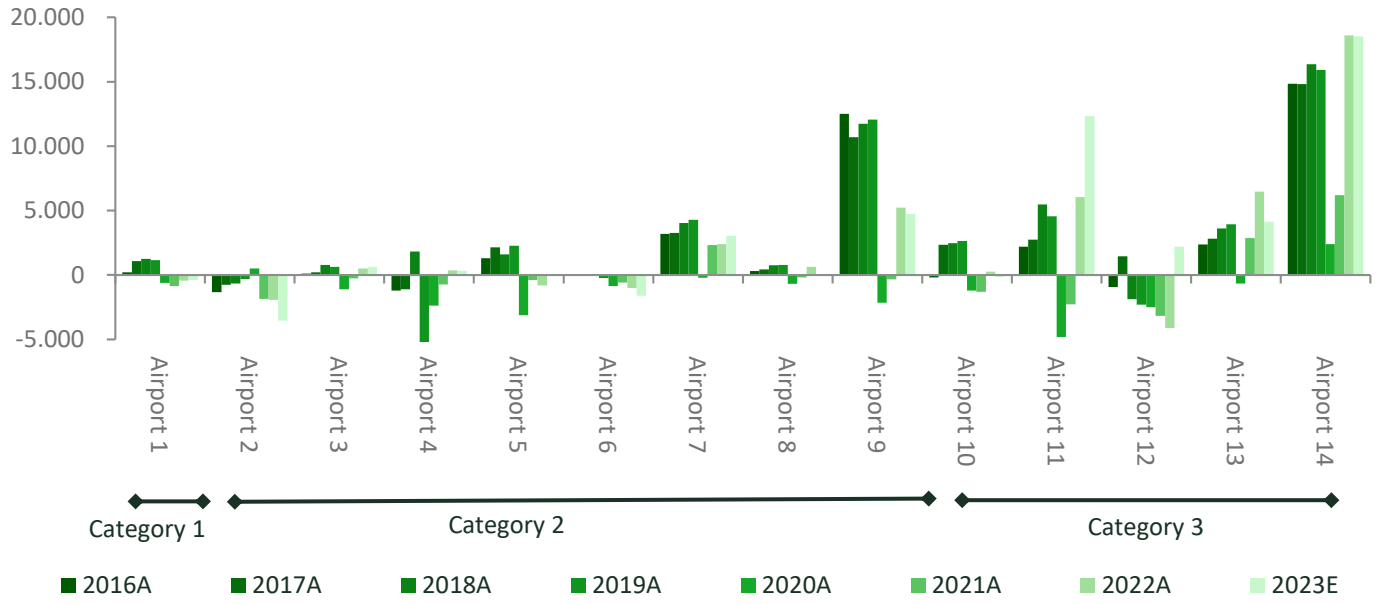
- The findings for airports with more than 500,000ppa but fewer than 1mppa are more mixed, with some airports incurring losses or only generating limited profits, while others are more profitable.[134]

- The two airports in our sample with more than 1mppa over the 2022–23 period have, in general, generated consistent positive EBITDA.[135]

3.52 These results are consistent with the findings from the Lear, DIW Berlin and Sheppard Mullin (2020) study, which concluded that a more granular categorisation of airports below 1mppa was more likely to accurately capture the financial situation of airports compared with the classification defined in the 2014 Guidelines.[136]

[132] Namely, Airports 3, 7, 9, 11, 12, 13 and 14.
[133] Specifically, Airports 1–6.
[134] Specifically, Airports 7–11. Airport 9 has historically generated significant profits, primarily due to its high aeronautical revenues, which are partly a result of the national regulatory framework governing airport charges. Airport 11 expects to generate a relatively significant profit in 2023 due to an increase in other non-aeronautical revenues, as well as an increase in take-off and landing charges.
[135] Specifically, Airport 13 (with the exception of 2020) and Airport 14.
[136] Lear, DIW Berlin and Sheppard Mullin (2020), 'Support study for the evaluation of the rules for operating aid under the EU aviation framework', final report, *Publications Office*, p. 112.

Figure 3.10 EBITDA excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid over the 2016–23 period (€'000)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. For Airports 5, 6, 8, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

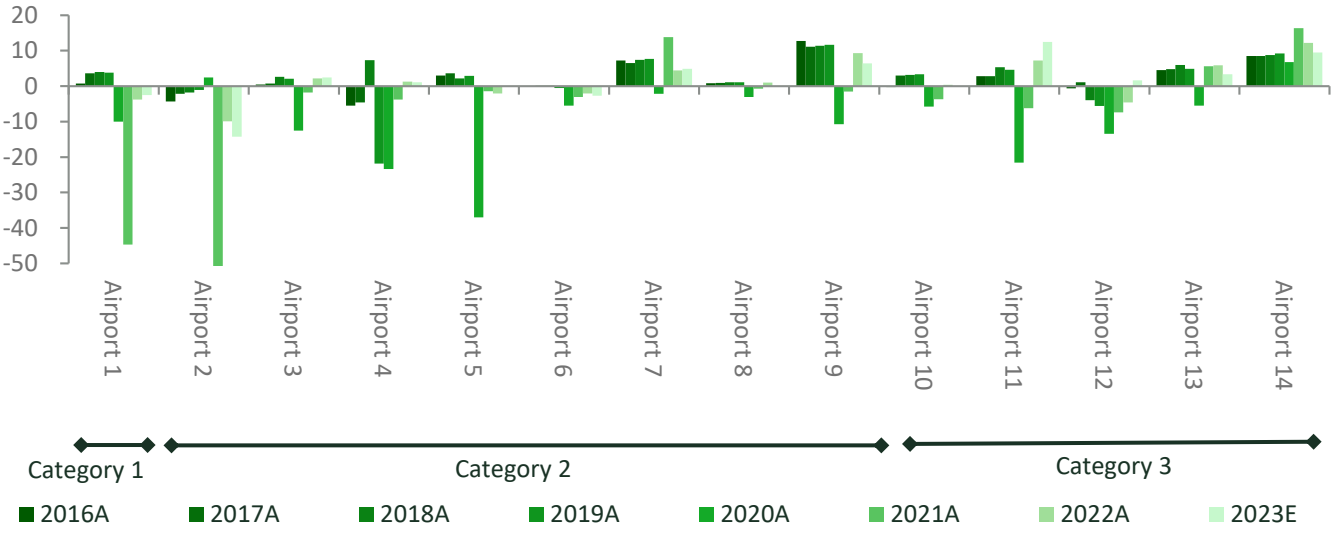
3.53 When profitability is analysed on a per-passenger basis, it is apparent that only a few airports in our sample exhibit an increasing trend in EBITDA per passenger, even when disregarding the 2020–21 period during which COVID-19-related travel restrictions were in place. Although EBITDA per passenger is returning to less-extreme levels during the recovery from the COVID-19 pandemic, four of the smaller airports in the sample still incur losses per passenger which are greater than in the 2016–19 period.[137]

3.54 Therefore, the absolute losses incurred by a number of the airports in our sample are not only caused by a (temporary) shortfall of passengers during the COVID-19 pandemic, but also by the inability of several of the airports in the sample to gradually increase their profits on a per-passenger basis over

[137] Specifically, Airports 1, 2, 5, 6.

time. As discussed previously, the airports in our sample report having only limited abilities to increase revenues, and have faced increased operating expenses following the pandemic.

Figure 3.11 EBITDA per passenger excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid over the 2016–23 period (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 2 recorded EBITDA per passenger as low as -€136 in 2021. In order to ensure the readability of the chart, the axis has been bounded between -€50 and +€20. For Airports 5, 6, 8, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.55 Figure 3.12 below shows the airports' forecasts of EBITDA over the 2023–27 period. The data shows that:

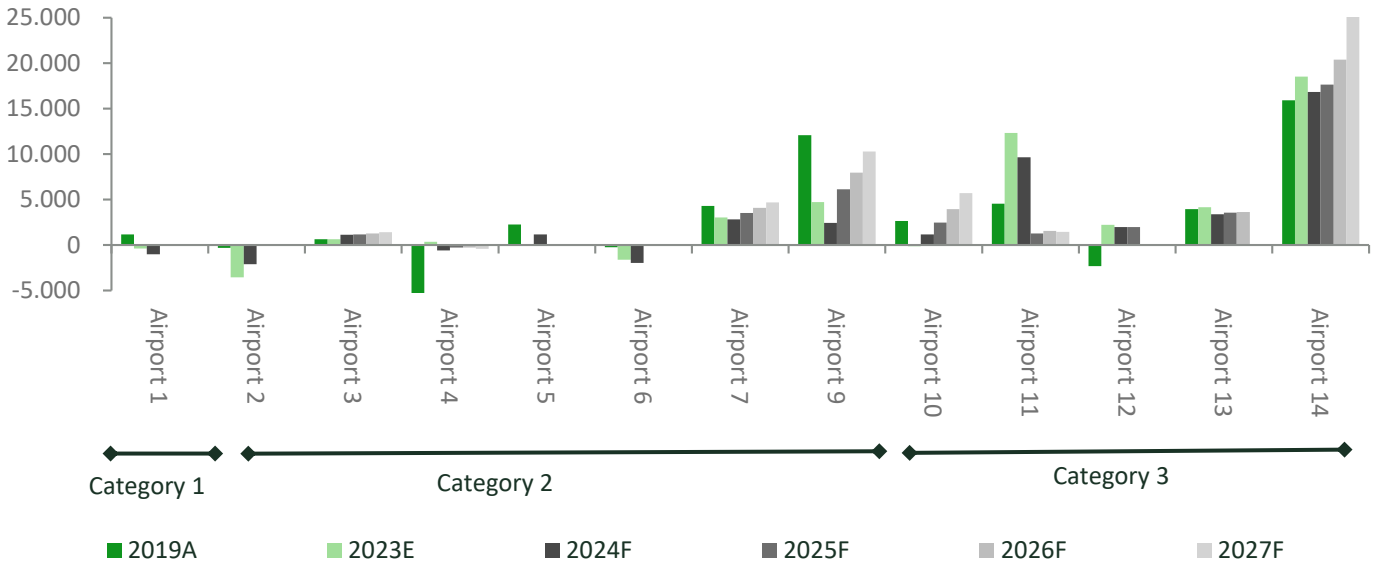
- the larger airports in our sample, which anticipate passenger numbers increasing above 1mppa over this period, expect to generate positive EBITDA over the 2023–27 period;[138]

[138] Specifically, Airports 9, 10, 11, 12, 13 and 14.

- a number of airports with traffic below or in the region of 500,000ppa expect to remain consistently unprofitable.[139]

3.56 It should be noted that the forecasts of airports' EBITDA are based on the airports' financial projections. To the extent that the forecasts reflect optimistic expectations, the profitability of the airports is likely to be worse than that presented above. In particular, as discussed in section 3.D.4, the majority of the airports in the sample have not reflected the impact of the Commission's Fit for 55 policies in their forecasts, and as a result, airports' demand and revenue projections may be over-estimated.

Figure 3.12 Forecast EBITDA excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid (€'000)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of EBITDA. For Airports 5, 6, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

[139] Specifically, Airports 1, 2, 4 and 6. The exception is Airport 3, which despite its small size is expecting to make (limited) profits.

3.57 When expressed on a per-passenger basis, EBITDA per passenger is not expected to exceed 2019 levels for most of the airports in our sample. In particular,

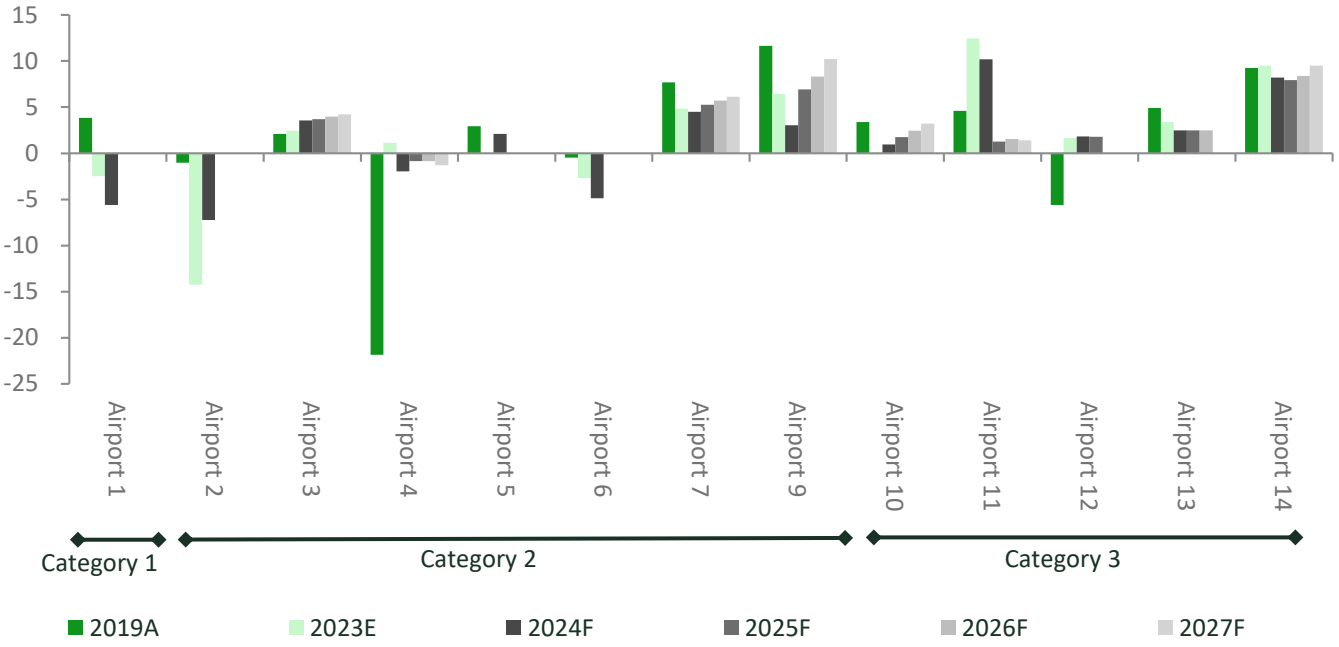
- the smaller airports below, or in the region of, 500,000ppa generally forecast continued and consistent losses per passenger over the period up until 2027;[140]

- although the larger airports, as mentioned above, anticipate that they would be able to generate profits in absolute terms, this is primarily driven by forecast increases in passenger numbers. In particular, four of the larger airports expect their EBITDA per passenger in 2027 to remain below 2019 levels.[141]

3.58 These findings are contrary to the Commission's presumptions in their 2014 Guidelines that regional airports with more than 200,000ppa would be able to gradually increase their profits per passenger over the transitional period.[142]

[140] Specifically, Airports 1, 2, 4 and 6.
[141] Specifically, Airports 7, 9, 10 and 13.
[142] European Commission (2014), op. cit., para. 13.

Figure 3.13 Forecast EBITDA per passenger excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid (€)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of EBITDA per passenger. For Airports 5, 6, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.59 Although EBITDA is a useful metric for examining the operating profitability of the airports in our sample, it should be noted that EBITDA margins, by definition, do not take depreciation and amortisation charges into account when calculating profitability. Operating aid can, however, cover operating losses as defined under the 2014 Guidelines. The 2014 Guidelines set out that operating losses should exclude any depreciation of eligible investment costs in airport infrastructure and equipment.[143] Airports may, however, also incur depreciation and amortisation charges for assets which do not qualify as eligible investments in airport infrastructure and equipment. As none of the depreciation and amortisation charges of such non-

[143] See European Commission (2014), op. cit., para. 25.

aeronautical investments are taken into account in the EBITDA margins, EBITDA margins may overestimate the profitability of airports for the purposes of calculating operating profits and losses.

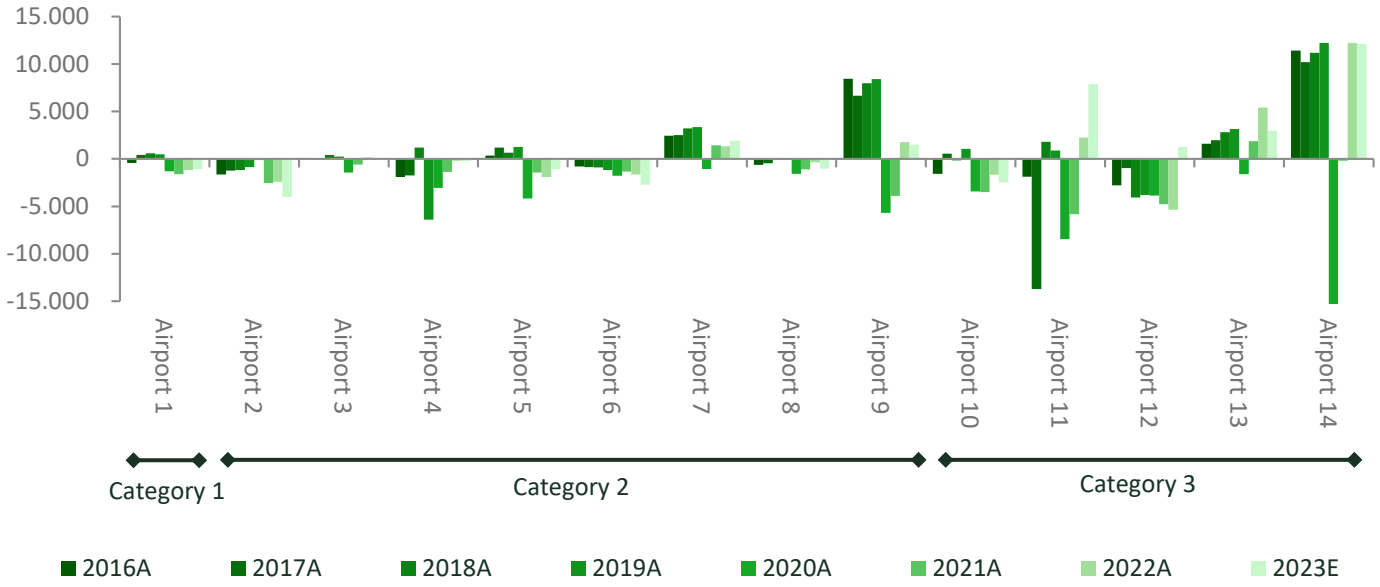
3.60 Therefore, we also consider the profitability of airports using the earnings before interest and taxes (i.e. EBIT) profitability metric.[144] The use of EBIT margins in considering airports' profitability is consistent with the common practice in the empirical literature.[145] EBIT margins take into account all depreciation and amortisation charges of the airport, including those in investments for which the airport would be eligible for investment aid.

3.D.2 Trends in Earnings Before Interest and Tax ('EBIT')

3.61 Figure 3.14 shows the evolution of EBIT for the airports in our sample over the 2016–23 period. The majority of the airports in our sample have generally incurred operating losses.[146] While six of the airports—typically, the larger airports—anticipate that they would be able to generate a positive EBIT in 2023, this is based on the airports' forecasts.[147]

[144] Our EBIT estimates exclude any non-economic costs, as well as any public financing of non-economic costs. This is consistent with the definition of airports' revenues, operating costs and the operating funding gap in the 2014 Guidelines, which is used to determine the amount of operating aid that can be granted to airports. Airports can, under certain conditions, receive separate funding for their non-economic costs. In order to assess the need for operating aid, we also exclude any operating aid received by the airports from the EBIT estimates. See European Commission (2014), op. cit., paras 25 and 35.
[145] As discussed in section 2.B and footnote 28, empirical studies cited in this report use both EBIT and EBITDA as profitability measures.
[146] Excluding the period of COVID-19 related travel restrictions, the exceptions are Airports 7, 9, 13 and 14.
[147] Specifically, Airports 7, 9, 11, 12, 13 and 14.

Figure 3.14 EBIT excluding costs (as well as any public funding) relating to non-economic activities and excluding any operating aid over the 2016–23 period (€'000)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 14 recorded EBIT (excluding costs as well as public funding relating to non-economic activities and operating aid) as low as c. -€28m in 2020. To ensure the readability of the chart, the axis has been bounded between -€15m and +€15m. For Airports 5, 6, 8, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

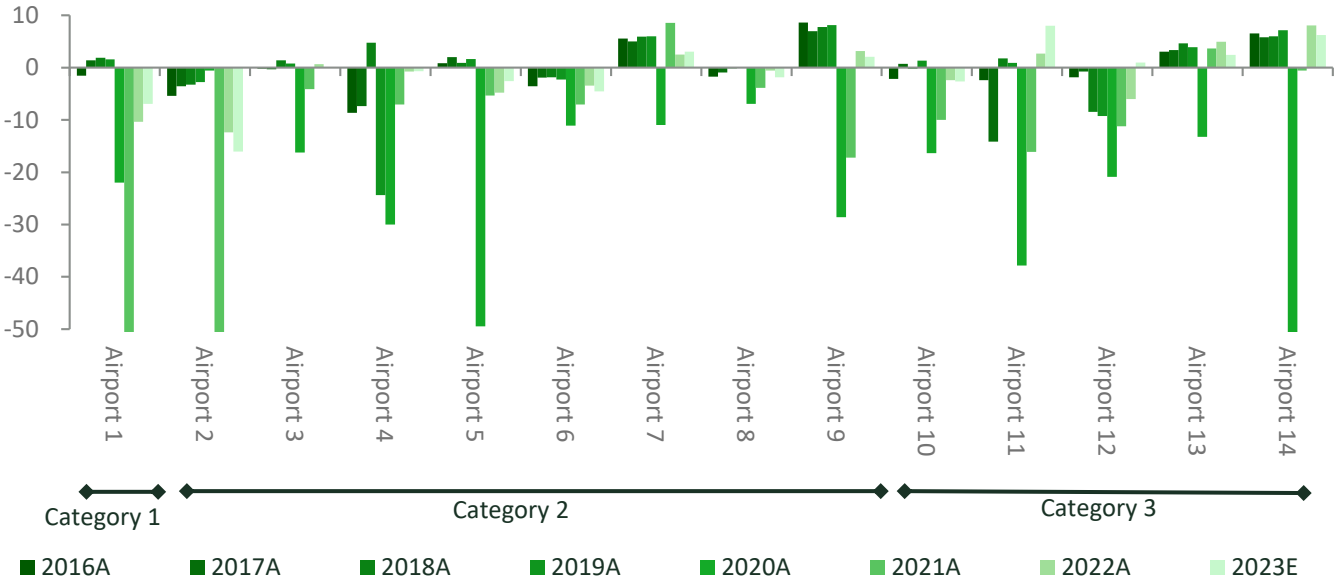
3.62 Figure 3.15 below shows the evolution of EBIT per passenger for the period 2016–23. As expected, the airports in our study have incurred significant losses on a per-passenger basis over the 2020–21 period, which was affected by the COVID-19-related travel restrictions.

3.63 Profitability per passenger at the majority of the airports in the sample has not returned to pre-pandemic levels. In particular, eight airports in the sample expect to be less profitable (or more loss-making) on a per-passenger basis for the years 2022 and 2023, compared with the 2016–19 period.[148] Even when disregarding the 2020–21 period, only two of the larger airports

[148] Specifically, Airports 1, 2, 3, 5, 6, 7, 9 and 10.

are on an upward trajectory of increasing EBIT per passenger over the 2016–23 period.[149]

Figure 3.15 EBIT per passenger excluding costs (as well as any public funding) relating to non-economic activities and excluding any operating aid over the 2016–23 period (€)



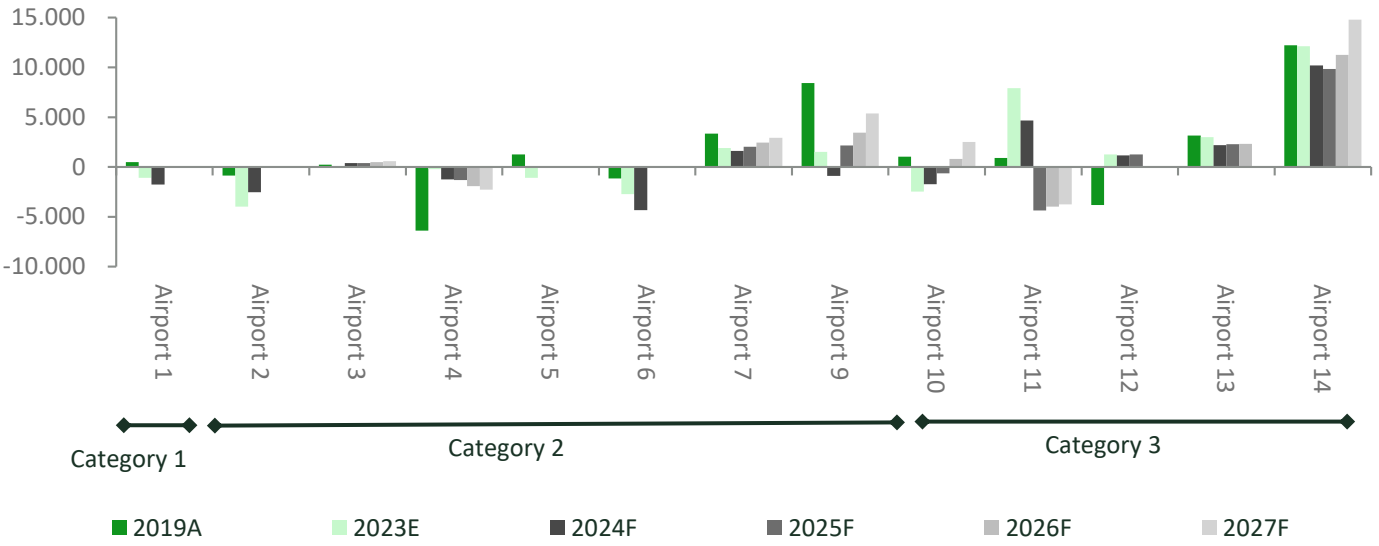
Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. EBIT denotes earnings before interest and tax. Airport 2 recorded EBIT (excluding costs and public funding relating to non-economic activities and operating aid) per passenger as low as -€188 in 2020. To ensure the readability of the chart, the axis has been bounded between -€50 and +€10. For Airports 5, 6, 8, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.64 Figure 3.16 shows the airports' forecasts of EBIT over the 2023–27 period. In general, the category 1 and 2 airports in our sample expect to continue to be loss-making over the coming years.[150] For those airports that are currently in category 3, the picture is more mixed—specifically, three airports forecast consistent

[149] Specifically, Airports 11 and 14.
[150] The exceptions are Airports 3, 7 and 9.

profits,[151] while two airports expect profits to fluctuate between positive and negative territory.[152]

Figure 3.16 Forecast EBIT excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid (€'000)



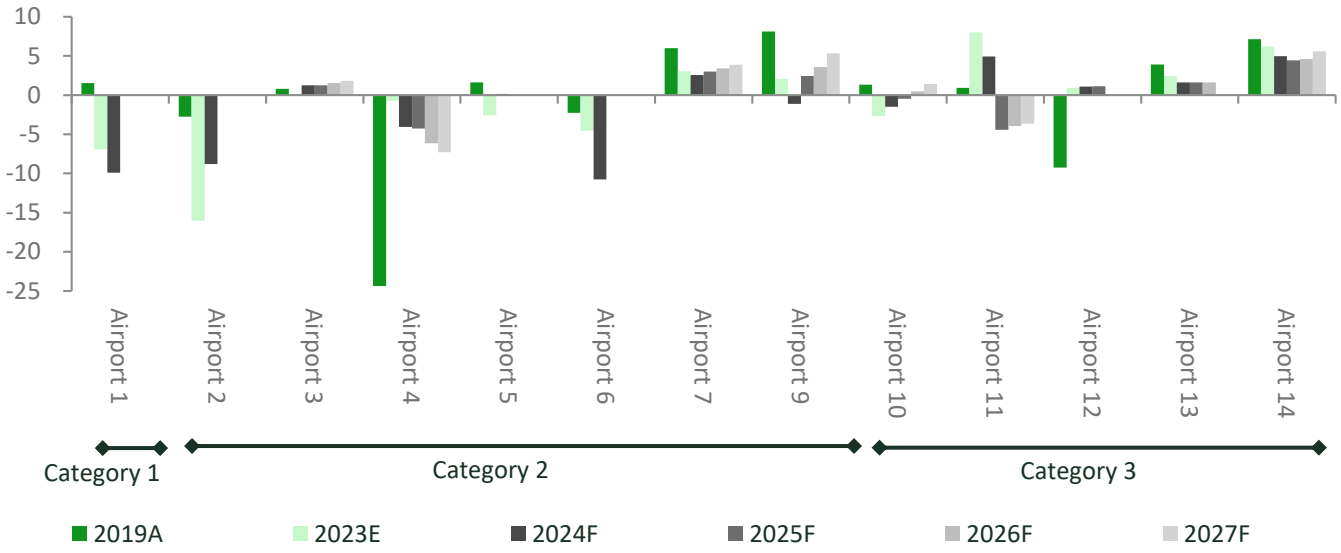
Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of EBIT. For Airports 5, 6, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.65 Figure 3.17 shows the airports' forecasts of EBIT on a per-passenger basis. The majority of the airports in the sample forecast lower profits, or greater losses, on a per-passenger basis over the 2023–27 period than in 2019.[153]

3.66 At those airports which expect to generate positive EBIT per passenger, the profits are relatively limited. In particular, only three airports expect to achieve EBIT of more than €1.9 per passenger in 2027.[154]

[151] Specifically, Airports 12, 13 and 14.
[152] Specifically, Airports 10 and 11.
[153] Specifically, Airports 1, 2, 5, 6, 7, 9, 11, 13 and 14.
[154] Specifically, Airports 7, 9 and 14.

Figure 3.17 Forecast EBIT per passenger excluding costs (as well as public funding) relating to non-economic activities and excluding any operating aid (€'000)



Note: As the 2023 financial year had not closed for all airports in the sample when Oxera obtained data from each airport in Q1 2024, for some of the airports, the 2023 figures reflect the airport's estimates for the financial year, while for others, the figures reflect the airport's actual data for the financial year. In particular, five out of 14 airports (Airports 3, 4, 6, 8 and 9) provided outturn (i.e. actual) data for their full financial year, while the remaining airports submitted estimates of their expected financial results. Airport 8 has not provided any forecasts of EBIT per passenger. For Airports 5, 6, 10 and 14, we do not have sufficient information to exclude costs (as well as public funding) relating to non-economic activities.
Source: Oxera analysis, based on operational and financial data provided by the airports in the sample.

3.D.3 Main findings from the profitability analysis

3.67 Although some of the airports in our sample expect to become profitable before 2027, irrespective of the precise metric that is used to assess profitability, most airports are unlikely to achieve consistent operating profits prior to April 2027 (i.e. the current date at which the possibility of providing operating aid to regional airports with more than 200,000ppa is expected to end).

- The smaller airports in our sample—specifically, those with below or in the region of 500,000ppa—have been unable to generate consistently positive profits over the 2016–23 period, and do not expect to generate consistent and significant profits before 2027. The inability to generate consistent and significant profits leaves the airports exposed to relatively small shocks in profitability.

- While the findings for the larger category 2 airports—i.e. those with traffic above 500,000ppa but fewer than 1mppa—are

more mixed, most of these airports also do not expect to achieve consistent significant profits.

- The larger category 3 airports are more likely to be able to achieve positive operating profits before 2027. This is consistent with airports requiring a critical mass of passengers in order to recover their significant fixed costs. In general, the airports that expect to generate positive EBITDA before 2027 mostly expect passenger numbers to grow and ultimately exceed 1mppa.[155] This is in line with the estimated level of traffic required by airports to break-even from the empirical literature, as summarised in Table 2.2.

3.68 When considering profitability on a per-passenger basis, the findings show that the airports in our sample generally do not foresee that there is scope to increase profits per passenger, but instead would need to rely on growth of passenger numbers to reach profitability. Indeed, most of the airports in our sample expect that profits per passenger over the 2023–27 period will not exceed 2019 levels. This is contrary to the Commission's expectations in its 2014 Guidelines that airports with more than 200,000ppa would be able to gradually increase airport charges or introduce cost rationalisation measures required to reach operating cost coverage.[156]

3.69 Furthermore, as discussed further in section 3.D.4, the majority of the airports in the sample have not reflected the impact of the Commission's Fit for 55 policies in their forecasts, and as a result, airports' demand and revenue projections may be over-estimated. Therefore, the actual profitability prospects of the airports in our sample may be worse than presented in this section.

3.70 Given that the EBITDA and EBIT numbers presented above exclude any non-economic costs funded by the airports, the levels of profitability at those airports that do not receive public funding towards their non-economic costs are in practice further below those shown in this section.[157]

[155] The only exceptions are Airports 3 and 7.
[156] European Commission (2014), op. cit., para. 13.
[157] Specifically, Airports 1, 4, 10, 11, 12, and 13.

3.D.4 Possible impact of the Commission's Fit for 55 policies on airports' future profitability

3.71 As discussed in section 2.C, the Commission's decision to prolong the transitional period for operating aid to airports for a further three years did not explicitly consider other factors that will limit the ability of small regional airports to be able to fully cover their operating costs. In addition to the structural changes we discussed in section 3.B.1, the operating profitability of regional airports is likely to be negatively affected by the Commission's Fit for 55 proposals, which aim to achieve a 55% reduction in greenhouse gas emissions by 2030 relative to 1990, as well as becoming climate neutral by 2050.[158]

3.72 The proposals in the Fit for 55 package include: [159]

- the Alternative Fuels Infrastructure Regulation ('AFIR'), which governs the deployment of interoperable alternative fuel infrastructure for vehicles across all transport modes;[160]
- the ReFuelEU aviation initiative, which aims to increase the demand and supply of sustainable aviation fuels;[161]
- the revision of the Energy Taxation Directive ('ETD') to align the taxation of energy products and electricity with the EU's energy and climate policies;[162]
- the reform of the EU's Emission Trading System ('ETS'), which will increase the scope of the ETS and set more ambitious reduction goals;[163]

[158] European Commission (2023), 'Commission welcomes completion of key 'Fit for 55' legislation, putting EU on track to exceed 2030 targets', 9 October, https://ec.europa.eu/commission/presscorner/detail/en/IP_23_4754, accessed 25 March 2024.
[159] We understand that the AFIR and ReFuelEU aviation allow for exceptions to the requirements based on the size of the airport. The precise impact of the policies may therefore differ across regional airports.
[160] European Commission (2024), 'Alternative Fuels Infrastructure', https://transport.ec.europa.eu/transport-themes/clean-transport/alternative-fuels-sustainable-mobility-europe/alternative-fuels-infrastructure_en, accessed 25 March 2024.
[161] European Council (2023), 'RefuelEU aviation initiative: Council adopts new law to decarbonise the aviation sector', 9 October, https://www.consilium.europa.eu/en/press/press-releases/2023/10/09/refueleu-aviation-initiative-council-adopts-new-law-to-decarbonise-the-aviation-sector/, accessed 25 March 2024.
[162] European Commission (2024), 'EU Green Deal – Revision of the Energy Taxation Directive', https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12227-EU-Green-Deal-Revision-of-the-Energy-Taxation-Directive_en, accessed 25 March 2024.
[163] European Council (2024), 'Fit for 55: reform of the EU emissions trading system', 27 January, https://www.consilium.europa.eu/en/infographics/fit-for-55-eu-emissions-trading-system/, accessed 25 March 2024.

- the implementation of the Carbon Offsetting and Reduction Scheme for International Aviation ('CORSIA'), which aims to stabilise CO_2 emissions at 2020 levels by requiring airlines to offset growth of emissions after 2020.[164]

3.73 Empirical analysis has shown that the Fit for 55 proposals will lead to additional costs to be borne by airports and airlines.[165] Part of these costs are likely to be passed through to consumers in the form of higher fares.[166] As a consequence of the increased fares, demand is expected to be reduced at European airports compared with the demand that would have prevailed in the absence of these policies.[167]

3.74 Oxera has undertaken quantitative modelling to evaluate the likely impact on the Fit for 55 policies on airports (both hub airports as well as regional airports).[168] Overall, across all airports (i.e. including hub airports), our analysis shows that the policies are expected to reduce demand for direct flights by 5% by 2030 as a consequence of increases in fares, compared with a scenario where the policies are not implemented.[169] It should be noted that while demand is expected to be lower than in the situation where the Fit for 55 policies are not implemented, demand is still expected to grow relative to 2019 levels.[170]

3.75 The Fit for 55 policies affect intra-EU and extra-EU routes differently.[171] In particular, the policies are likely to have a greater effect on intra-EU flights, as well as leading to higher expected fare increases for LCCs. As regional airports, as illustrated in Table 3.1, tend to have a relatively large share of

[164] European Commission (2024), 'Reducing emissions from aviation', https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-aviation_en, accessed 25 March 2024.
[165] See, for example, SEO (2022), 'The Price of Fit for 55', August.
[166] Airports may pass through their increased costs to airlines, which in turn may pass these costs through to customers in the form of higher fares. Moreover, the Fit for 55 proposals will also give rise to further costs for airlines directly, which may be passed through to customers in the form of higher fares.
[167] See Oxera (2022), 'Assessment of the impact of the Fit for 55 policies on airports, prepared for ACI EUROPE', 30 May, p. 1; and SEO (2022), 'Aviation Fit for 55', March, p. 1, https://www.oxera.com/wp-content/uploads/2022/06/Impact-assessment-of-Fit-for-55-policies-on-the-aviation-sector_final_090822.pdf, accessed 26 April 2024.
[168] See Oxera (2022), 'Assessment of the impact of the Fit for 55 policies on airports, prepared for ACI EUROPE', 30 May, https://www.oxera.com/wp-content/uploads/2022/06/Impact-assessment-of-Fit-for-55-policies-on-the-aviation-sector_final_090822.pdf, accessed 26 April 2024.
[169] Ibid., pp. 2 and 37.
[170] Ibid., p. 37.
[171] For further details, see Oxera (2022), op. cit., pp. 37–39.

intra-EU traffic and may be more dependent on LCCs, the reductions in demand at such airports relative to the scenario where the policies are not implemented may be particularly significant.[172] In particular, modelling undertaken by Oxera suggests that demand for intra-EU flights is expected to decrease by 11% in 2030 compared with a situation where the policies are not implemented, as a consequence of a significant—specifically, 16%—increase in fares due to the Fit for 55 proposals.[173]

3.76 The substantial additional costs relating to the Fit for 55 proposals are acknowledged by several of the airports in our study. For example, three of the airports note that the Fit for 55 proposals will require substantial further capital expenditure,[174] while two airports expect additional operating expenses as a consequence of the proposals. However, the majority of the airports in the sample have not yet factored in the impact of the Fit for 55 proposals into their financial projections.[175]

3.77 In addition to facing increased costs and potential reduced traffic due to the Fit for 55 proposals, airports may incur further costs or face reductions in demand due to national policies/regulations. However, the airports in our sample have in general not factored in the possible impact of these proposals into their financial projections. Examples of national measures include short-haul flights for which a rail alternative is available that would take less than 2.5 hours being prohibited in France, with the Spanish government currently considering introducing similar legislation.[176] The French government has also increased the solidarity tax on flights departing from French airports ('Tarif

[172] Ibid., pp. 2–3 and pp. 37–39.
[173] Ibid., pp. 38–39.
[174] Average investment costs relating to the AFIR for airports with fewer than 1mppa are expected to range from €400,000 to €1.2m, depending on whether the airport has an existing electricity supply for other purposes, and whether the gates or stands serve only narrow-body aircraft or if they also serve wide-body aircraft. Ibid., p. 14.
[175] Only Airport 1 has acknowledged that they expect a reduction in the number of passengers due to the Fit for 55 proposals. Airports 11 and 13 note that it is currently difficult to accurately forecast the likely effects on demand.
[176] Some EU member states have restricted, or are in the process of restricting, short-haul domestic flights to promote the use of high-speed rail. However, the relevant airports in our sample have not yet factored in the impact of these restrictions on their demand forecasts. For instance, in 2023, France banned, under certain conditions, domestic flights which can be substituted with a rail journey below 2.5 hours. Similarly, Spain has announced its intention to ban domestic flights that can be substituted with a rail journey below 2.5 hours, excluding connecting flights at hub airports in Spain. Direction de l'information légale et administrative (2023), 'Certains vols intérieurs de courte durée supprimés', 24 May, https://www.service-public.fr/particuliers/actualites/A16193, accessed 16 May 2024; and Business Travel News Europe (2024), 'Spain proposes ban on short-haul domestic flights', 7 March, https://www.businesstravelnewseurope.com/Air-Travel/Spain-proposes-ban-on-shorthaul-domestic-flights, accessed 16 May 2024.

de solidarité de la Taxe sur le transport aérien de passagers') by an eco-tax component ('éco-contribution'), with the proceeds contributing towards funding the railway infrastructure.[177] Similarly, Denmark has announced the introduction of an additional tax on flights departing from Denmark with the receipts directly helping to finance the airline industry's green transition.[178] Furthermore, other member states, such as Germany, have recently significantly increased air passenger taxes.[179] Such taxes can affect demand and may lead to airlines focusing on the most profitable routes where yields are the greatest.[180]

3.78 Insofar as the reduction in demand and the additional costs have not been taken into account in the airports' forecasts, the Commission's Fit for 55 policies and member states' various national proposals are likely to further exacerbate profitability concerns for small regional airports.

[177] Keohane, D. (2019), 'France to impose green tax on departing flights', 9 July, https://www.ft.com/content/1a2061ac-a252-11e9-974c-ad1c6ab5efd1, last accessed 16 May 2024; Le Monde (2019), 'Le gouvernement met en place une écotaxe sur les billets d'avion ', 9 July, https://www.lemonde.fr/planete/article/2019/07/09/le-gouvernement-met-en-place-une-ecotaxe-sur-les-billets-d-avion_5487336_3244.html, accessed on 16 May 2024; and Smith, I. (2023), 'France is raising taxes on flights to pay for trains: Should other European countries do the same?', *Euronews*, 10 August, https://www.euronews.com/green/2023/08/10/france-is-raising-taxes-on-flights-to-pay-for-trains-should-other-european-countries-do-th, accessed 17 May 2024.

[178] The tax, which will gradually be introduced starting 2025, will help finance the airline industry's green transition, aiming to enable all domestic flights to use 100% sustainable fuels by 2030. The tax exempts transit flights which depart after a stop-over at an airport in Denmark. Reuters (2023), 'Denmark introduces green tax on air passengers from 2025', 15 December, https://www.reuters.com/business/aerospace-defense/denmark-introduces-green-passenger-tax-air-travel-2023-12-15/, accessed 21 May 2024.

[179] IATA (2024), 'German Passenger Tax Increase To Weaken Economy & Hamper Decarbonization', Press Release No. 17, 2 May, https://www.iata.org/en/pressroom/2024-releases/2024-05-02-01/, accessed 17 May 2024.

[180] Arena, L. (2024), 'VDR and IATA condemn German air passenger tax increase', Business Travel News Europe, 6 May, https://www.businesstravelnewseurope.com/Air-Travel/German-government-increases-air-passenger-tax, accessed on 16 May 2024.

4 Conclusions

4.1 Based on data provided by member airports from ACI EUROPE, ADV, Assaeroporti, the RAA and the UAF, we have assessed the financial position of a sample of regional airports in the EU. We have also included insights provided by the management of the regional airports in the sample, as well as findings from the available empirical literature.

4.2 We have analysed whether operating aid to regional airports with more than 200,000ppa is likely to be required to ensure the financial viability of the airports. The results of our assessment show that the airports have been significantly affected by the COVID-19 pandemic and the war in Ukraine as well as structural changes in the European aviation market with passenger traffic not yet having recovered at all airports.

4.3 Our findings show that there is a positive relationship between the size of the airports in our sample and their ability to generate profits. In particular, the results of our assessment show that:

- airports smaller than or in the region of 500,000ppa generally expect to remain consistently unprofitable over the period up to 2027;
- airports with more than 500,000ppa and fewer than 1mppa are unlikely to become consistently and significantly profitable ahead of 2027;
- airports that expect to grow to above 1mppa expect to reach operational cost coverage.

4.4 However, even at those airports that expect to return to profitability in some years, the absolute level of profitability is expected to be relatively small and it is unlikely to offset COVID-19-related losses. Although there is now more variation between airports in the sample in terms of their financial position due to differences in the speed of recovery from the COVID-19 pandemic and the energy crisis, in addition to the asymmetric impact of the war in Ukraine and the associated restrictions on airspace as well as structural changes in the aviation market, our finding that airports with fewer than 1mppa are unlikely to

achieve consistent and significant financial profitability in the near future is consistent with the findings of our 2019 study.[181]

4.5 Furthermore, the results of our assessment indicate that airports are not expecting to achieve significant increases in profitability on a per-passenger basis. Indeed, most of the airports in our sample anticipate that profits per passenger will not exceed 2019 levels ahead of 2027. This is likely to be due to airports not being able to significantly increase airport charges or reduce their operating costs, in contrast to the Commission's assumptions at the time of its introduction of the 2014 Guidelines.

4.6 Our conclusions hold irrespective of whether the EBITDA or EBIT metrics are used to measure the profitability of an airport, excluding costs and funding relating to non-economic activities and excluding any operating aid received by the airports in the past. The EBITDA profit measure is likely to underestimate the relevant profitability as it does not include depreciation and amortisation charges which are not eligible for investment aid, while EBIT is likely to overestimate profitability as it includes all depreciation and amortisation charges, including those eligible for investment aid.

4.7 This is consistent with findings from the empirical literature, which as discussed in section 2.B, indicate that airports are only able to achieve profitability with traffic in the region of 500,000ppa to 1mppa. Moreover, this is consistent with the findings of the study underpinning the Commission's fitness check, which found that a number of airports with fewer than 700,000ppa would be unlikely to cover their operating costs in the near future.[182]

4.8 Further factors that are expected to continue to put pressure on the profitability of regional airports relate to structural changes that have occurred in the aviation market. These factors include increased seasonal variation in the level of traffic resulting from the growth in leisure traffic and the retrenchment of business

[181] Oxera (2019), 'The European Commission's consultation on the 2014 Aviation State Aid Guidelines, An economic analysis of airports' profitability', prepared for ACI EUROPE and the UAF, 30 October, https://aci-europe.org/downloads/resources/OXERA%20STUDY%20on%20State%20Aid%20-%20An%20economic%20analysis%20on%20airports%20profitability.pdf, accessed 27 March 2024.
[182] Lear, DIW Berlin and Sheppard Mullin (2020), 'Support study for the evaluation of the rules for operating aid under the EU aviation framework', final report, *Publications Office*, p. 60.

traffic at regional airports in the post COVID-19 pandemic market reality and the growing competition between regional airports and larger/hub airports, as well as the Commission's Fit for 55 proposals and other national policy/regulatory measures introduced by member states. In particular, the evidence indicates that the Fit for 55 proposals and the various national measures introduced by member states are expected to reduce passenger traffic as a result of higher fares, as well as leading to increased costs for airports. These factors are recognised by the airports in our sample and, insofar as they have not fully been reflected in their financial forecasts, will lead to reduced profits or increased losses for the airports.

4.9 Based on the results above, the Commission's presumptions in its 2014 Guidelines that airports with more than 200,000ppa would be able to achieve profitability on an operational basis by the end of the transitional period does not seem to have come to fruition. Contrary to the Commission's initial expectations, regional airports with fewer than 1mppa are likely to, for the reasons explained above, be unable to gradually increase airport charges or introduce the rationalisation measures required to reach operating cost coverage.

4.10 An option for the Commission's consideration could therefore be to extend the transitional period beyond 2027 for providing operating aid to regional airports with more than 200,000ppa. Such a prolongation could enable financial support to be provided for airports which are expected to incur losses over the foreseeable future (i.e. those airports with fewer than, or in the region of, 500,000ppa), as well as for airports which are unlikely to be able to generate consistent profits (i.e. those with fewer than 1mppa).

4.11 It could also be considered to change the basis for determining the maximum amount of operating aid that is allowed. As explained in section 2.A, the maximum amount of operating aid is based on the airport's annual average funding gap for 2009–13. The appropriateness of this period as a frame of reference is likely to reduce over time, especially in light of the recent business environment characterised by high inflation and significant pressures on revenues. This is confirmed by the results of our assessment, which show that the average operating costs (in absolute terms) of the airports in our sample in 2022 exceeded 2019 levels, despite traffic on average not having fully recovered. The average operating costs of the

airports in our study also exceeded 2016 levels, which is the starting point of our study.

4.12 Moreover, the treatment of airports' costs of non-economic activities could be considered further to mitigate the impact of the significant differences between member states. The airports included in our sample report significant differences in the treatment of non-economic costs, ranging from airports which do not receive any contributions for non-economic costs to airports which receive full coverage. Therefore, allowing non-economic costs to be included in the calculation of the operating funding gap for the purposes of obtaining operating aid could be considered, in the event that the member state does not have a framework in place that compensates such non-economic costs.

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