HOW IS COMPETITION POLICY COPING WITH ATLANTIC AREA AIRLINE MARKETS?

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ABSTRACT

Concentration in airline markets in both the U.S. and the EU is very high and has been for decades. Competition authorities on both sides of the Atlantic have nonetheless approved mergers and alliances that appear to increase the market power of the participating firms. How effective is domestic and international airline competition in the Atlantic area today, and how effective is prevailing competition policy? Is policy conflict likely? These questions are explored in the context of a major industry that has historically been more nationally protected and controlled than perhaps any other outside of the defense sector. Is the industry's performance likely to improve or diminish? We recently concluded a comprehensive study of U.S. and EU competition policies, The Atlantic Divide in Antitrust*, which stresses critical differences between the two policy regimes as well as some similarities. As industries increasingly globalize, coordination of competition policies becomes ever more important, and the potential for conflict—the extraterritorial veto power national authorities have over foreign practices that affect the home market—cannot be ignored. We conclude that, despite some very different underlying assumptions and enforcement systems, competition authorities on both sides of the Atlantic appear to have developed a similar and compatible approach to the airlines that may lead to improved social performance without serious policy conflict*

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INTRODUCTION

The American airline industry has seen a substantial increase in overall concentration in the last decade as six legacy carriers have been replaced by three.[1] Today, the United States (U.S.) domestic market is dominated by the three remaining legacy carriers (Delta, United, and American) and Southwest, a so-called low-cost carrier. Much of the single-market European Union (EU) is dominated by firms that are allied with one or more of the three U.S. legacy carriers. Most airline routes on both sides of the Atlantic are above the level regarded as "highly concentrated" in the language of the U.S. merger

1. This paper focuses on the U.S. and the EU. Canadian developments are interesting in their own right but doing them justice would require more institutional discussion than space permits.

guidelines. North America and the EU together account for between 50–60% of global aviation,[2] although this share is declining.[3]

Does the present level of concentration in the U.S. domestic and transatlantic markets mean, as some have argued, that effective competition has diminished significantly over recent years, and that the airline industry is likely to demonstrate increasingly anticompetitive behavior and increasingly poor performance both within each region and between them? Is consumer welfare, accordingly, likely to fall? Can the competition policy regimes in the U.S. and the EU promote an effective degree of competition by pursuing only the conventional objectives of controlling concentration and entry barriers, or are there alternative ways of fostering competitive results? Heavy government regulation was a hallmark of the industry's early history with markedly negative results, so if new regulation is considered, it would need to be dramatically different from anything yet seen. Do the new phenomena of alliances among international carriers presage lower costs, increased volume, and lower fares, or do they signal the opposites? These are some of the questions addressed in this Article. Our interest in the subject grows directly from our consideration of U.S. and EU competition policy in *The Atlantic Divide in Antitrust*, where we emphasized differences rather than similarities in policy regimes.[4]

The airline industry displays uniqueness in many dimensions. It has included an inevitable international component since its earliest

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2. *See* INT'L CIVIL AVIATION ORG., PRESENTATION OF 2016 AIR TRANSPORT STATISTICAL RESULTS 4 (2016), https://www.icao.int/annual-report-2016/Documents/ARC_2016_Air%20Transport%20Statistics.pdf [https://perma.cc/38QE-KRKB]; *see also* Guillaume Burghouwt, et al., *EU Air Transport Liberalisation Process, Impacts and Future Considerations* 38 (Int'l Transp. Forum, Discussion Paper 2015), https://www.itf-oecd.org/sites/default/files/docs/dp201504.pdf [https://perma.cc/7ZPX-RM4K]. The percentage depends on whether activity is measured by value or physical units. *See* INT'L CIVIL AVIATION ORG., *supra* note 1, at 4. The value number is higher. *See id.*

3. The horizontal merger guidelines of the Department of Justice (DOJ) and the Federal Trade Commission (FTC) classify market concentration using the Herfindahl-Hirschman index (HHI). The three categories used in the guidelines are: unconcentrated (HHI below 1500), moderately concentrated (HHI between 1500 and 2500), or highly concentrated (HHI above 2500). U.S. DEP'T OF JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 18 (2010), https://www.justice.gov/sites/default/files/atr/legacy/2010/08/19/hmg-2010.pdf [https://perma.cc/5RX6-XVWF]. Concentration levels in the U.S. are discussed in Daniel J. Gifford & Robert T. Kudrle, *U.S. Airliners and Antitrust: The Struggle for Defensible Policy Towards a Unique Industry*, 50 IND. L. REV. 539, 539-41 (2017). The U.S. and EU alliance structure is discussed *infra* in Section III.C of this Article.

4. *See* DANIEL J. GIFFORD & ROBERT T. KUDRLE, THE ATLANTIC DIVIDE IN ANTITRUST: AN EXAMINATION IN US AND EU COMPETITION POLICY 1 (2015).

days, yet much of it remains partially protected by nationally specific regulations that severely limit foreign participation in routes and ownership.[5] In antitrust analysis, city-pairs (a route between two cities) are generally treated as the most relevant markets. In most countries, city-pairs are more concentrated than the overall level of concentration. In the U.S. today, concentration levels in many city-pair markets would be classified as highly concentrated under the merger guidelines: Dallas/Chicago: HHI 3031; Denver/Philadelphia: HHI 3397; and Los Angeles/Boston: HHI 2595.[6] The merger guidelines regard all markets bearing an HHI index of 2500 or more (as all of these markets do) as highly concentrated.[7] And in Europe the city-pair concentration is typically much higher.[8] But despite concentration indicia suggesting market power, the major carriers on both sides of the Atlantic until recently have had a dismal profit history.[9] In nearly every national market, the major carriers have experienced chronic losses, often leading to bankruptcy and merger or exit.[10]

The secular growth of air travel has been far higher than GDP growth rates in most markets, yet the intertemporal variation in output has been very high, contributing largely to the observed profitability problems.[11] Finally, the connection between air transport and public

5. See the discussion of the Chicago Convention and its ramifications in Part III *infra*.

6. The Herfindahl index is the sum of squared market shares of all firms, where (here) a 0.25 share is treated as 25. Authors' calculations from firm data. *See* U.S. DEP'T OF JUST. & FED. TRADE COMM'N, *supra* note 3, at 19.

7. *Id.*

8. See William M. Swan, *Consolidation in the Airline Industry*, available at cyberswans.com/AirlineIndustryPubs/Consolidation/ConsolidationPaper.doc [https://perma.cc/49D4-4RSQ] (Swan is a Boeing economist).

9. See Gifford & Kudrle, *supra* note 3, at 543. On the financial condition of European airlines, see Alex Dichter, Sybren Hahn & Dominic Maxwell, *Winter is Coming: The Future of European Aviation and How to Survive It* (2015), available at https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/winter-is-coming-the-future-of-european-aviation-and-how-to-survive-it. The authors note that, since 1985, aviation has averaged €13 billion per year of economic loss. *Id.* at 7.

10. *See List of Airline Bankruptcies in the United States*, WIKIPEDIA, https://en.wikipedia.org/wiki/List_of_airline_bankruptcies_in_the_United_States https://perma.cc/2TQM-Y8MZ]; *List of Defunct Airlines of Europe*, WIKIPEDIA, https://en.wikipedia.org/wiki/List_of_defunct_airlines_of_Europe [https://perma.cc/HKY8-6RSZ].

11. *See* AIRBUS, GLOBAL MARKET FORECAST: GROWING HORIZONS 7 (2017), http://airbus-dev63.adobecqms.net/aircraft/market/global-market-forecast.html [https://perma.cc/6SX9-8LUS]; INT'L AIR TRANSP. ASSOC., ECONOMIC PERFORMANCE OF THE AIRLINE INDUSTRY 1 (2017), https://www.iata.org/whatwedo/Documents/

policy is more multifaceted than in almost other industry: The combination of publicly controlled or regulated complementary facilities such as airports, equipment safety, emergency financial bailouts, personnel certification, and airline security are unique to this industry.[12]

This study looks at the past, present, and future of air passenger service in the U.S. and the EU with some attention to the place of the Atlantic region in the larger global market. This focus is justified because carriers based in the North America and the EU currently carry over half of all global traffic.[13] Yet these carriers' fortunes turn in part on the entire global market. In 2016, 40.9% of all air traffic crossed international borders, and this percentage goes up more than 6% per year.[14] Our central question stems directly from the law and economics literature: How viable is competition in the Atlantic area airline industry today?

I. AIRLINES: BRIEF HISTORY AND MAJOR CHARACTERISTICS

Unlike the case of many modern markets, global trade in air services has not just evolved with the decline of general trade protection and the development of technology[15] but has been continually affected by significant legal constraints.[16] All international air traffic stems from explicit bilateral agreements.[17] The U.S. dominated the world commercially as well as militarily as World War II ended, and fear that such domination in air service would crush non-U.S. national carriers led to a highly restrictive regime announced at the Chicago Conference of 1944.[18] Each state maintained complete control over its own airspace, and any foreign activity needed approval by formal agreement.[19] This eventually led to over 3,000 such

economics/IATA-Economic-Performance-of-the-Industry-mid-year-2017-report.pdf. [https://perma.cc/G9EU-TZB4]

12. *See* Kenneth Button, *The Usefulness of Current International Air Transport Statistics*, 2 J. TRANSP. & STAT. 71, 84 (1999).

13. INT'L CIVIL AVIATION ORG., *supra* note 2, at 4.

14. *Id.*

15. *See* KEN BUTTON, THE IMPACTS OF GLOBALISATION ON INTERNATIONAL AIR TRANSPORT ACTIVITY: PAST TRENDS AND FUTURE PERSPECTIVES 8-9 (2008), https://www.oecd.org/greengrowth/greening-transport/41373470.pdf [https://perma.cc/XAE8-3Z6U].

16. *See* Burghouwt, et al., *supra* note 2, at 35.

17. *See id.* at 44.

18. *See* Kenneth Button, *The Impact of US–EU "Open Skies" Agreement on Airline Market Structures and Airline Networks*, 15 J. AIR TRANSP. MGMT. 59, 60 (2009).

19. *See id.*

agreements, which typically stipulated the names of specific carriers, the conditions of their ownership, and the nature of permission by flight frequency and airports. National governments outside of the U.S. typically owned their own monopoly "flag carriers."[20] Although there are exceptions, outside of the EU, only a handful of states permit foreign ownership of national airlines to exceed 50%, even today.[21] (The EU is a special case in which the Union has effectively succeeded to the rights of each of its member states.)[22] This caution reflects national security and safety concerns, but it also prevents nationals from a third state from benefiting from existing bilateral agreements if an airline were to change hands.[23]

The post-war developments of American and European based airlines differ in one major respect: While the increased use of the market mechanism for air travel in Europe has accompanied widespread privatization since around 1980, U.S. airlines were private throughout.[24] Those changes in Europe were elements of the broader melding of the European economies. By 1997, national restrictions on intra-EU airline activity were no longer permitted, i.e., a Paris-based carrier had the same rights in Germany as one based in Berlin.[25]

Non-negligible air travel before the Second World War outside of North America and Europe was mainly in Australia, Japan, and Latin America. These areas account for only a minor share of carriers and traffic today. Instead, new airlines based in Taiwan, China, Singapore, and the Gulf have become major factors in the global marketplace. Emirates is now the fourth largest airline by scheduled passenger miles flown and China Southern the eighth [26] This rise has been driven by a combination of local entrepreneurship, protection, and increasing regional demand.[27] Whereas North America and Europe accounted for 63% of all air traffic in 1995,[28] this dropped to 53% by 2016.[29]

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20. *See id.* at 63.
21. *See id.* at 63-64.
22. The Union requires all member states to afford equal protections to all member states. Within the EU, therefore, airlines registered in any EU state must be treated by each member state as a domestic airline.
23. *See* Button, *supra* note 18, at 63, 70.
24. *See id.* at 62.
25. *See* Burghouwt, et al., *supra* note 2, at 14.
26. *See* Flight Global, *World Airline Rankings 2017*, 6 (2017), https://www.flightglobal.com/asset/18223 [https://perma.cc/R7KN-MZG3].
27. *See* Burghouwt, et al., *supra* note 2, at 42.
28. INT'L CIVIL AVIATION ORG., *Annual Report of the Council 1995* 1, 2 (1995), https://www.icao.int/Documents/annual-reports/rp95_en.pdf [https://perma.cc/HNU4-WU9Q]
29. INT'L CIVIL AVIATION ORG., *supra* note 2, at 4.

II. AIRLINES AS AN INDUSTRY

A. Airline Costs

The regulation and national ownership of airlines were originally linked to national security and safety.[30] Safety concerns underlie part of the extraordinary volume of data collected about virtually every aspect of the airline industry worldwide. In the U.S. and in many other jurisdictions, this includes cost data from individual carriers that are unusually accurate and detailed.

A major concern about the airline industry at the time that the U.S. Civil Aeronautics Board began its regulation of fares and routes in 1938 was the possibility that the industry might suffer from a tendency towards "destructive competition" due to high fixed costs and low marginal costs.[31] High fixed costs are especially problematic for an industry such as air transport, which is subject to wide variations in demand.[32] Although some writers have taken this approach,[33] Borenstein and Rose have pointed out that the industry is in fact not unusual in its capital intensity.[34] Rather, they have contended that its vicissitudes historically stemmed from a confluence of erratic fuel costs and huge swings in final demand interacting with dubious business models by major firms that for decades typically implied route expansion in good times and huge losses in downturns.[35]

The relation of service volume to costs has been studied from many perspectives. One is the load factor: How close to passenger capacity does a plane fly? In the U.S., the average number moved from around 50% at the dawn of deregulation to 84.1% in 2017.[36] In Europe, load factors with increasing liberalization similarly moved to about

30. *See* Burghouwt, et al., *supra* note 2, at 36.

31. *See* JAMES J. LYNCH, AIRLINE ORGANIZATION IN THE 1980S: AN INDUSTRY REPORT ON STRATEGIES AND STRUCTURES FOR COPING WITH CHANGE 65-66 (1984) (urging enactment of regulatory legislation over the airline industry to "prevent the spread of bad practices and of destructive and wasteful tactics resulting from the intense competition now existing within the air-carrier industry"); Roger G. Noll, *Economic Perspectives on the Politics of Regulation*, *in* HANDBOOK OF INDUSTRIAL ORGANIZATION 1254, 1257 (Richard Schmalensee & Robert D. Willig eds., 1989).

32. *See* ELDAD BEN-YOSEF, THE EVOLUTION OF THE US AIRLINE INDUSTRY: THEORY, STRATEGY AND POLICY 106 (2005).

33. *See id.*

34. *See* Severin Borenstein & Nancy L. Rose, *How Airline Markets Work . . . or Do They? Regulatory Reform in the Airline Industry*, *in* ECONOMIC REGULATION AND ITS REFORM: WHAT HAVE WE LEARNED? 63, 105-06 (Nancy L. Rose ed. 2014).

35. *See id.* at 112-14.

36. U.S. Dep't of Transp., *2017 Semi-Annual and June U.S. Airline Traffic Data*, https://www.bts.gov/newsroom/2017-semi-annual-and-june-us-airline-traffic-data [https://perma.cc/8M4R-WVUZ].

the same level as the U.S. in recent years.[37] Holding the load factor and route structure constant, cost declines due to a larger aircraft or closer seating are elements of economies of density.[38] Savings from the greater density achieved by substituting larger aircraft for smaller aircraft dwarf savings from scale economies attained by extending a given flight to a more distant destination.[39] Costs can drop by 15% with a doubling of passengers throughout, while economies of scale gained from simply increasing destinations without a change in density are minor.[40]

In the U.S., low-cost carriers (LCCs) have traditionally been distinguished from "legacy" carriers.[41] The legacy carriers are those that were operating under the supervision of the Civil Aeronautics Board (CAB) during the regulatory period from 1938 to 1978.[42] These terms ("low cost" and "legacy") suggest that the cost advantage that the later-entering LCCs have had over the legacy carriers is a result of the high labor cost structure that the legacies developed during the regulatory period. This cost advantage is narrowing, however, nearly all of the legacies have gone through Chapter 11 bankruptcy since the beginning of the new century with the resulting institution of major changes in labor practices.[43]

The hub-and-spoke structure of the legacy carriers unanticipatedly emerged after deregulation as an efficient way to serve the large number of medium-size cities that are core markets for the legacies.[44] Under a hub-and-spoke system, passengers are gathered at hubs, enabling most of their trip to be carried out by large aircraft, thereby increasing economies of density.[45] For any given non-hub origin and initial hub, the total journey cost declines with the distance to a second destination hub.

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37. *See* IATA, *Strong Passenger Demand, Record Load Factor in February* (Apr. 6, 2017), http://www.iata.org/pressroom/pr/Pages/2017-04-06-01.aspx.

38. *See* Douglas W. Caves, Laurits R. Christensen & Michael W. Tretheway, *Economies of Density Versus Economies of Scale: Why Trunk and Local Service Airline Costs Differ*, 15 RAND J. ECON. 471, 474 (1984).

39. *See id.*

40. *See id.*; *see also* BIJAN VASIGH, KEN FLEMING & THOMAS TACKER, INTRODUCTION TO AIR TRANSPORT ECONOMICS: FROM THEORY TO APPLICATIONS 125-26 (2d ed. 2013). A doubling of passengers reduces fixed cost per passenger by half. See Jan K. Brueckner & Pablo T. Spiller, *Economies of Traffic Density in the Deregulated Airline Industry*, 37 J. L. & ECON. 379 (1994) for an assessment of the impact of density on airline costs.

41. *See* Borenstein & Rose, *supra* note 34, at 80.

42. *See id.* at 64, 66.

43. *See id.* at 88.

44. *See id.* at 88-89.

45. *See id.* at 89.

Despite typically great differences in general population density between Europe and the U.S., the hub-and-spoke system also developed in Europe.[46] In both the U.S. and Europe, LCCs generally fly on point-to-point routes between selected cities.[47] LCCs typically employ their own computer booking systems, offer only unassigned economy class seats, and make ancillary charges for anything beyond the cost of passage.[48] LCCs also realize lower operational costs by employing only a limited range of aircrafts, which has impeded their entry into the transatlantic market.

LCC base fares are far lower than those of the firms called "legacy" carriers in the U.S. and "full service" carriers (FSCs) in Europe. In fact, one European classification puts firms with fares of 50% of the "full-service" price into the "low-cost" category. Using a similar scheme, there were ten low-cost carriers based in the EU in 2017 but only five full-service carriers: British Airways, KLM-Air France, Lufthansa, Finnair, and Scandinavian Airlines System (SAS). LCC Ryanair grew to overtake Lufthansa in 2016 as the largest carrier in Europe.[49] By 2015 LCCs accounted for 48% of total seat capacity in the EU while the FSCs offered fewer seats than in 1998.[50]

In the U.S. there are now only three legacy or full service carriers: Delta, United, and American.[51] And the best known U.S. LCC, Southwest, has had a larger U.S. passenger volume than any of the legacy three in some recent years at about 20% (American was slightly larger than Southwest in 2017) with no other LCC above about 5%.[52] Although Southwest is taking on some the of the legacy carriers' characteristics, such as developing some hubs and a business class, it

46. *See, e.g.*, German Aerospace Center Release 1.01, Analyses of the European Air Transport Market: Airline Business Models ¶ 3.3 (2008) (Development at Different Airports – Hub vs. Secondary Airports).

47. *See, e.g.*, Burghouwt, et al., *supra* note 2, at 27-30.

48. *See* Borenstein & Rose, *supra* note 34, at 95-96.

49. Lufthansa, however, at least temporarily overtook Ryanair in 2017 as Europe's largest carrier, after Ryanair was forced to cut thousands of flights because of pilot rostering problems. *Ryanair Loses Europe's Largest Airline Crown to Lufthansa*, IRISH TIMES (Jan. 10, 2018), https://www.irishtimes.com/business/transport-and-tourism/ryanair-loses-europe-s-largest-airline-crown-to-lufthansa-1.3350878 [https://perma.cc/L9UR-DR3C].

50. *Commission Communication to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of Regions on An Aviation Strategy for Europe*, at 16, COM (2015) 598 final (Dec. 7, 2015).

51. *See* Gifford & Kudrle, *supra* note 3, at 539-40.

52. U.S. Dep't of Transp., *Airline Domestic Market Share July 2017-June 2018*, https://www.transtats.bts.gov/ [https://perma.cc/SC7J-NXS7].

is still generally classified as an LCC, joined by JetBlue, Allegiant, and Alaska.[53]

B. Airline Demand

Airline demand differs from that of most products because of network effects.[54] A large share of the travelling public (mostly business travelers) will choose one airline over another because of the frequency of flights, and both business travelers and others travelling to provincial cities will choose an airline that possesses the ability to book complex schedules easily.[55] This means, *ceteris paribus*, that large airlines in terms of both volume on particular routes and the multiplicity of such routes have a demand advantage.[56] And it also explains the growth of code-sharing or interline ticket booking (a cooperative practice in which one airline books seats on a second airline and sells them as its own) early in the deregulation period.[57] Without code-sharing, passengers would need to recheck their bags with a change of carrier.[58] But even arm's length cooperation—like no cooperation at all—presents the problem of "double marginalization," the phenomenon in which the price of each part of the trip is set without regard for the diminished demand on the other part.[59] In such a circumstance, both parts of the journey are priced excessively for joint profit maximization, and closer coordination can improve both seller and buyer welfare.[60]

The income elasticity of demand for air travel is fairly high. Estimates have been made by region and length of haul—longer journeys tend to be more elastic, and for most countries they range from 1.5-2.0.[61] Market-wide price elasticities are quite low: At the

53. *See* Dipasis Bhadra & Pamela Texter, *Airline Networks: An Econometric Framework to Analyze Domestic U.S. Air Travel*, 7 J. TRANSP. & STAT. 87, 89 (2017).

54. *See* Severin Borenstein, *Trends: Pray for JetBlue*, MILKEN INST. REV. 5, 7 (2014).

55. *See id.*

56. *See id.*

57. *See* Borenstein & Rose, *supra* note 34, at 76.

58. Without a code-sharing or similar agreement, the two or more airlines carrying a passenger on separate segments of a trip would be contracting separately with the passenger for their respective segments. Each carrier, accordingly, would be responsible only for its own segment.

59. *See* William Gillespie & Oliver M. Richard, *Antitrust Immunity Grants to Joint Venture Agreements: Evidence from International Airline Alliances*, 78 ANTITRUST L.J. 443, 458 (2012).

60. *See id.*

61. *See* MARK SMYTH & BRIAN PEARCE, AIR TRAVEL DEMAND: IATA ECONOMICS BRIEFING NO. 9-10 (2008), https://www.iata.org/whatwedo/documents/economics/air_travel_demand.pdf [https://perma.cc/9C85-FBWQ].

national level most estimates are less than one.[62] This, of course, still allows for very high price cross elasticities across carriers on the same route.[63] In addition, there is price discrimination across different classes of passengers with business passengers paying a much higher mark-up over the cost of service than others.[64] Although only the North American and European markets have been studied in detail, these general characteristics seem very likely to apply globally.[65]

C. From Cost and Demand to Market Conditions

Classic industrial organization analyses stress market structure and consequent firm conduct to explain overall market performance.[66] This paradigm has seen some revision over the decades, particularly by making structural characteristics endogenous and firm conduct less predictable,[67] yet the categories remain intuitive and analytically useful.

Structural characteristics include concentration, barriers to entry, and product differentiation.[68] The concern about concentration is twofold: All else equal, the smaller the number of firms in the market, the greater their likely recognition of mutual dependence and the less likely they are to engage in easily matched competitive behavior that will leave each participant worse off.[69] In addition, where increasing market concentration leads firms to sell substitute products that previously were competing, those products can be jointly priced within the firm to maximize profits.[70]

Following deregulation in the U.S. there was a spate of entry followed by exits and consolidation.[71] After the late eighties, the national market structure stabilized and aggregate concentration

62. *See id.* at 25. Both income and price elasticities are calculated by asking what would happen if price or income changed by one percent over the range in question, holding all other factors constant.

63. *See id.* at 10.

64. *See* Daniel J. Gifford & Robert T. Kudrle, *supra* note 3, at 548-49. Of course, business travelers are receiving value for their higher fares in the frequencies of flights and the large networks available to them. *See id.*

65. *See* SMYTH & PEARCE, *supra* note 61, at 10.

66. *See* DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 244 (4th ed. 2005).

67. *See id.*

68. *See id.*

69. *See* STEVEN A. MORRISON & CLIFFORD WINSTON, THE EVOLUTION OF THE AIRLINE INDUSTRY 9 (1995).

70. *See* Gillespie & Richard, *supra* note 59, at 458.

71. *See* MORRISON & WINSTON, *supra* note 69, at 8-9.

varied only slightly[72] until the three major mergers of the past few years (Northwest-Delta, United-Continental and American–US Air). The Herfindahl-Hirschman Index (HHI)[73] of 1,404 for U.S. airlines measured by passenger miles in 2013 indicates an un-concentrated market.[74] The 2013 EU-wide index was only 524.[75] EU-wide concentration figures over time must be used with care because complete international freedom within the EU for EU-based carriers was established only in 1997.[76] But the relevant market for competition policy in the airlines is acknowledged to be the city-pair, so broader concentration figures have only limited meaning.[77]

Considering the more relevant route-level concentration, data have been calculated for the U.S. for both hub and non-hub routes.[78] Routes from the twelve major hubs were somewhat less concentrated than other routes until the mid-eighties, at which point they became more concentrated by 1989.[79] The HHIs of these hubs stood at 4,800, and the HHIs of non-hubs stood at 4,000.[80] This was followed by hub deconcentration in recent years so that the index for both groups is now closer to 4,000.[81] Even at this lower number, the index remains in the highly concentrated category.[82]

One study of the U.S. in 2014 concluded: "[N]early 90 percent of all passengers traveled on city-pairs with HHIs above 2,500, and about 40 percent of city pairs have HHIs in excess of 4,000."[83] In

72. *See id.* at 8.

73. The index is a measure of industry concentration used in the merger guidelines of the Department of Justice and the Federal Trade Commission. The index is calculated by squaring the percentage market share of each firm in the industry and adding them. *Id.* Therefore, the maximum possible value of a monopoly is 10,000 (100^2). *See id.* Because the HHI is constructed from the squares of market shares, it yields a higher number as shares are larger on average and also as the shares are more unequal.

74. *See European Airline Consolidation to Enhance Financials? Few Deals to Be Done, at Least Locally*, CAPA (May 15, 2013, 1:52 AM), https://centreforaviation.com/analysis/reports/european-airline-consolidation-to-enhance-financials-few-deals-to-be-done-at-least-locally-109713 [https://perma.cc/WAB4-Q9YR].

75. *See id.*

76. *See* Burghouwt, et al., *supra* note 2, at 14.

77. *See* Borenstein & Rose, *supra* note 34, at 102.

78. *See id.* at 91.

79. *See id.*

80. *Id.* at 89.

81. *See id.*

82. *See id.* at 91.

83. FIONA SCOTT MORTON, ET AL., BENEFITS OF PRESERVING CONSUMERS ABILITY TO COMPARE AIRLINE FARES 36 (2015), http://3rxg9qea18zhtl6s2u8jammft-wpengine.netdna-ssl.com/wp-content/uploads/

Europe, typical route level concentration is considerably higher: The average route had an index of 6,897 in 2015.[84] This does not dependably translate into a lower level of competition, however. Most of the European population lives in regions that are more densely settled than the U.S. with major airports far closer together—hence providing some competition with each other—and with a much higher level of intermodal competition (i.e., trains and busses). Such facts have entered into the analyses of EU competition authorities at both the national and EU levels.[85]

Barriers to entry into the airline industry are considerable but, as the various waves of entrants in both Europe and America have demonstrated, they are often surmounted. Economies of scale, as distinct from economies of density, are not estimated to be large, and small-scale entry, sometimes with leased aircrafts, has been frequently observed.[86] Entry conditions under public control such as gates and slots (a slot is the right of an airline to use airspace and ground facilities at a particular time) have varied over time and present considerable difficulty in some U.S. and many more EU markets, but workarounds through the use of secondary airports have often been successful.[87] "Brand" preference unalloyed by tangible attraction, such as better airport facilities and especially loyalty discounts such as frequent flyer programs, seem quite modest.[88] In fact, in the early years of U.S. deregulation, many economists tended to view competition in the airline industry through the lens of William Baumol's theory of contestable markets.[89] Under this theory, an industry behaves competitively if entry and exit into the market are costless.[90] Aircrafts

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2015/05/CRA.TravelTech.Study_.pdf [https://perma.cc/BG5W-QSPW]. For example, an HHI of 2500 in a city-pair market could mean that it is being served by four equal-sized airlines, and a market with an HHI of above 4000 could mean that it is being served by three airlines of somewhat unequal size.

84. *See* Burghouwt, et al., *supra* note 2, at 30.

85. *See id.*

86. *See* Elizabeth E. Bailey & William J. Baumol, *Deregulation and the Theory of Contestable Markets*, 1 YALE J. ON REG. 111, 111, 128 (1984).

87. Ryanair, Europe's largest carrier and an LCC has used mostly secondary airports. *See, e.g.*, TOPICAL REPORT: ANALYSES OF EUROPEAN TRANSPORT MARKET: AIRLINE BUSINESS MODELS 22 (2008) (describing use of secondary airports by Ryanair).

88. *See* Michael E. Levine, *Airline Competition in Deregulated Markets: Theory, Firm Strategy, and Public Policy*, 4 YALE J. ON REG. 393, 426-28 (1987).

89. *See id.* at 403-04 (discussing role of contestable market theory during airline deregulation and recognizing theorists who applied contestability to the airline industry in the early 1980s); *see generally* William J. Baumol, *Contestable Markets: An Uprising in the Theory of Industry Structure*, 72 AM. ECON. REV. 1 (1982).

90. *See, e.g.*, Elizabeth E. Bailey & John C. Panzar, *The Contestability of Airline Markets During the Transition to Deregulation*, 44 L. & CONTEMP. PROB. 125,

could be moved from one location to another at low cost;[91] therefore, so the story went, when any airline was able to raise its profits beyond a competitive return, those profits would attract entry that would compete them away. Thus, market power and sustained, supracompetitive returns were impossible in the airline industry.[92]

This interpretation of the industry has not prospered, despite the (until recently) accurate prediction that incumbent firms would not realize sustained profitability.[93] The theory's assumptions were faulty and so were some of its main predictions. New airline entrants must incur a set of pre-operating and "ramp-up" costs that are "sunk" (that is, nonrecoverable) in the event that the entrant leaves the market.[94] Moreover, econometric studies have shown that prices are typically somewhat higher when the number of competitors is lower, and that the impact of potential competition from legacy carriers alone is modest.[95] On the other hand, one insight from the approach remains important: The price-cost margins typically associated with very high concentration can be disciplined by the threat or actual entry by an aggressive competitor, such as an LCC.[96] This was implicit in the earliest industrial organization literature but was not stressed.[97]

In both the U.S. and Europe, low-cost carriers have provided by far the most effective competitive force in the industry.[98] The "Southwest Effect" notes that this firm, which began operating from Dallas in 1971 as an intrastate airline that soon moved into adjoining states but did not operate with hubs, has exerted a sharp downward influence on fares in a market simply by announcing its impending

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125 (1981) (applying contestable market theory to city-pair airline markets); *see also* Levine, *supra* note 88, at 403 (recognizing theorists who applied contestability to the airline industry in the early 1980s).

91. *See* Bailey & Baumol, *supra* note 86, at 128.

92. *See* Bailey & Panzar, *supra* note 90, at 125, 129 (noting airline prices were regulated by the possibility of competitors entering the market in 1979–1980 because the market was "nearly perfectly contestable" and discussing how easy entry and exit into markets by new entities keep pricing competitive).

93. See the discussion in Gifford & Kudrle, *supra* note 3, at 550-51. For a discussion of the financial history of the airline industry, see *id.*, at 543.

94. *See* Levine, *supra* note 88, at 400.

95. *See* Borenstein & Rose, *supra* note 34, at 121.

96. *See id.*

97. *See* JOE S. BAIN, INDUSTRIAL ORGANIZATION 299-300 (1959).

98. They have played an even larger role in some low-income countries. Note, for example, that both prior to the three recent mergers (Delta/Northwest, United/Continental, American/US Air) and after, the largest carrier in the U.S. was Southwest, an LCC widely known for its low fares. *See* Gifford & Kudrle, *supra* note 3, at 551, 578. The same is true for Europe where the largest carrier is Ryanair, an LCC also widely known for its low fares. See discussion *supra*, text accompanying note 50.

entry.[99] In recent years, Southwest's costs and its prices appear to have risen relative to the legacy carriers.[100] But JetBlue, another of the LCCs, has grown to be the fifth largest U.S. domestic carrier,[101] and, along with Spirit Airlines, produces strong downward pricing pressure on the legacy carriers that compete with them.[102]

In sharp contrast to the impact of impending or actual entry by LCCs, U.S. data suggest that the competitive impact of legacy carriers with each other has declined over time.[103] One study found that a change from three to two carriers on a route in 2000 increased prices by 4%, but a similar change produced negligible price increase by 2008.[104] Similarly, a shift from two to one raised prices by 12% in 2000 but only by 3.9% in 2010.[105] Severin Borenstein has interpreted such evidence as suggesting that markets with two or even three firms are already engaging in full monoploid pricing.[106] This is consistent with a decline in experimentation with alternative business models and the acceptance of mutual forbearance with price leadership, a standard outcome in many oligopoly markets dealing in similar products.[107] But this still leaves each airline with some price discrimination latitude among its own offerings based on estimated demand elasticities across

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99. *See* Austan Goolsbee & Chad Syverson, *How Do Incumbents Respond to the Threat of Entry? Evidence from the Major Airlines* 2 (NBER, Working Paper No. 11072, 2005), http://www.nber.org/papers/w11072 [https://perma.cc/9FFT-QKJS].

100. *See* Vinay Bhaskara, *Has "The Spirit Effect" Replaced "The Southwest Effect?"*, AIRWAYS (July 20, 2013, 9:07 AM), https://airwaysmag.com/industry/has-the-spirit-effect-replaced-the-southwest-effect/ [https://perma.cc/NSW4-MALZ].

101. Jetblue is the fifth largest U.S. carrier, behind Southwest, American, United, and Delta. See *On-Flight Market Passengers Enplaned by Unique Carrier for 2015*, BUREAU TRANSP. STAT., http://www.transtats.bts.gov/ [https://perma.cc/E4RV-7V83].

102. *See* Bhaskara, *supra* note 100.

103. *See* JAN K. BRUECKNER, DARIN LEE, & ETHAN SINGER, NETWORK VS. LCC COMPETITION AND AIRFARES: NEW EMPIRICAL EVIDENCE FROM THE US 4 (2010), https://www.iata.org/whatwedo/Documents/economics/Brueckner_Competition_Fares.pdf [https://perma.cc/H9BW-68RH].

104. *Id.*

105. *Id.*

106. *See* Borenstein, *supra* note 54, at 10.

107. U.S. carriers were enjoined from a particular mechanism of price coordination based on announcement of intended price change by a settlement with DOJ in 1994. *See generally* Press Release, U.S Dep't of Justice, Justice Department Settles Airlines Price Fixing Suit, May Save Consumers Hundreds of Millions of Dollars (Mar. 17, 1994). This still left ample opportunity for price changes to be offered and rescinded quickly if they went unmatched. *See generally* ORG. ECON. COOP. & DEV., SUMMARY RECORD OF DISCUSSION, ANNEX TO THE SUMMARY RECORD OF THE 121ST MEETING OF THE COMPETITION COMMITTEE HELD ON JUNE 18-19 (2014), http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/M(2014)2/ANN5/FINAL&doclanguage=en [https://perma.cc/XR4C-JT57].

passengers.[108] And competition takes place in non-price dimensions such as gate facilities, clubs, and frequent flier programs.

Many elements of the European market closely resemble those in the U.S.[109] This is almost definitionally true with broad cost and demand issues, but the competitive behavior pattern is also very similar, as the following section confirms. There is little evidence of aggressive pricing by FSCs and copious evidence of downward price pressure by LCCs.[110]

D. Loyalty Programs

Any attempt to understand the role of loyalty programs in the marketing of air travel necessarily raises two important analytical points. First, price premia at hub airports reflect the advantages of flying from a hub, which are the convenience of a direct flight and the direct network access that a hub provides.[111] Lederman, however, has estimated that at least a quarter of the hub premium represents the value of the incumbent airlines' frequent flyer programs (although overall hub premia have declined over time).[112] Second, the attraction of loyalty discounting cannot be distinguished from other increases in travelers' perceived value of larger networks in the econometric studies that the Department of Justice (DOJ) found persuasive in approving recent U.S. mergers.[113]

There has been much written over the years about the role of loyalty programs in discouraging competition in both Europe and America.[114] Yet Southwest is now the largest domestic U.S. carrier, and Ryanair is the largest carrier in the EU.[115] Therefore, experience

108. *See* ORG. ECON. COOP. & DEV., *supra* note 107, at 4.

109. This is widely recognized. *See, e.g.*, Burghouwt, et al., *supra* note 2, at 5-6 (discussing U.S. deregulation and EU liberalization).

110. *See* Burghouwt, et al., *supra* note 2, at 24.

111. *See* Mara Lederman, *Are Frequent-Flyer Programs a Cause of the 'Hub Premium?'*, 17 J. ECON. & MGMT. STRATEGY 35, 36 (2008).

112. *See id.*; s*ee generally* Mara Lederman, *Do Enhancements to Loyalty Programs Affect Demand? The Impact of International Frequent Flyer Partnerships on Domestic Airline Demand*, 38 RAND J. ECON 1134 (2007).

113. *See* Gifford & Kudrle, *supra* note 3, at 566-69.

114. *See, e.g.*, Ramon Caminal & Adina Claici, *Are Loyalty-Rewarding Pricing Schemes Anti-Competitive*? 25 INT'L J. INDUS. ORG. 657 (2007).

115. See European Commission, ANNUAL ANALYSES OF THE EU AIR TRANSPORT MARKET 2016, 12 (2017) (table top 1.0 airlines by passengers). Southwest has long had its own loyalty program, but it attained substantial market penetration without it, and Ryanair began its program only in 2017. Southwest began its first loyalty program, called The Company Club, in 1987. *See* Southwest Airlines Media, *1984-1989*, https://www.swamedia.com/pages/1984-to-1989 [https://perma.cc/

on both sides of the Atlantic suggests that a traveler loyalty program is neither necessary nor sufficient for competitive success. Moreover, such programs are employed by scores of airlines around the world.[116] Our view is that a direct attack on loyalty programs by public policy would be a kind of "nuclear option" that should be considered only if they can be shown to protect chronic excess profitability, which is very far from the record so far.

E. Two Sets of Players

A major difference between the U.S. and the EU lies in the parallel development of the European airline industry and the EU itself.[117] More than a dozen substantial private U.S. carriers participated in the market when American liberalization began.[118] In Europe at that time most major states had their own national carrier, usually owned by the government.[119] The European story is necessarily one of discrete national markets dissolving and with them some of the national prerogatives agreed upon at the Chicago Convention of 1944.[120]

In July 1992, the European Council adopted Regulation 2408/92,[121] thereby complying with its obligations under previous Council Regulation 2343/90 to establish an air transport policy abolishing capacity restrictions between Member States by the year's end.[122] Regulation 2408/92 effectively postponed the adoption of the new policy until April 1, 1997, at which time so-called "cabotage" among European airlines was to be implemented, permitting any airline registered in a member state of the European Union to offer air service in any member state.[123] Prior to April 1997, most European national airlines operated from one central airport and dealt with intra-EU traffic on the basis of bilateral agreements aimed at something like

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N3EV-H4T8]. Ryanair's loyalty program began in 2017. *See* Rachel Gee, *Ryanair Looks to Grow Loyalty Scheme by Making Membership Automatic*, MARKETINGWEEK (Nov. 7, 2016, 3:18 PM), https://www.marketingweek.com/2016/11/07/ryanair-looks-to-grow-loyalty-scheme-by-making-membership-automatic/ [https://perma.cc/7GPY-5QSE].

116. *See* ORG. ECON. COOP. & DEV., *supra* note 107, at 8, 13, 15-16 (describing frequent flyer programs in Peru, Canada, Turkey, Europe, and elsewhere).

117. *See id.* at 3.

118. See Gifford & Kudrle, *supra* note 3, at 541.

119. *See* Burghouwt, et al., *supra* note 2, at 5.

120. *See id.* at 7.

121. *See* Council Regulation 2408/92 of 23 July 1992, On Access for Community Air Carriers to Intracommunity Air Routes, 1992 O.J. (L 240) 8.

122. *See id.*

123. *See id.* art 3.

balanced trade.[124] Bilateral agreements restricting the number of flights and airports were often struck and subsequently adjusted to protect the welfare of the dominant flag carrier.[125] At least by 1990,[126] however, the European Council had embarked on a transitional policy that would take it to the full cabotage policy of 1997.[127] The 1997 liberalization was thoroughgoing: National firms from any member state could operate anywhere in the EU without restriction.[128] But movement by the flag carriers to seize the new opportunities was sluggish. In sharp contrast, entry by low-cost carriers was dramatic and extensive; the LCC share beyond their country of base registration grew to become approximately half of all their operations as their total EU market share expanded from 3% in 2001 to 27% in 2013.[129] The FSCs, like their U.S. legacy counterparts, developed more complex hub-and-spoke operations both before and after intra-EU liberalization; the LCCs, again like their transatlantic counterparts, did not.[130]

The share of low-cost carriers in both the U.S. and EU continues to grow, but the FSC airlines offer features typically not found with LCCs,[131] which are valued by many passengers; whether these features can sustain their current price premia cannot be confidently forecast. Most EU FSCs have either expired or merged, but, like their U.S. cousins, the survivors have been experiencing rising profits in the very recent past with global economic expansion.[132] As this Article will argue later, there is little reason for confidence that this can be sustained.

F. Merger Policy

There are two rationales for mergers, and by extension, for alliances short of complete merger: (1) the creation of market power, or (2) the generation of efficiencies. Typically, both of these rationales

124. *See* Burghouwt, et al., *supra* note 2, at 7.
125. *See id.*
126. *See* Council Regulation 2343/90 on Access for Air Carriers to Scheduled Intra-Community Air Service Routes and on the Sharing of Passenger Capacity Between Air Carriers on Scheduled Air Services Between Member States; Intra-Community Air Routes, 1990 O.J. (L 217) 5; *see also* Council Decision of 14 Dec. 1987, 1987 O.J. (L 371) 76.
127. *See* Burghouwt, et al., *supra* note 2, at 13.
128. *See id.* at 14.
129. *Id.* at 20.
130. *See id.* at 14.
131. *See id.*
132. *See* Press Release, IATA, Strong Airline Profitability Continues in 2018 (Dec. 5, 2017).

are present.[133] Democratic governments are generally understood to carry the responsibility for fostering social welfare or at least consumer welfare.[134] Governments should (and usually do) oppose mergers and alliances that create market power without compensating economic improvements. When a merger or alliance generates both market power and efficiencies, governments should block those mergers and alliances in which the sum of these effects reduces welfare, and they should allow those mergers and alliances where a positive consumer welfare effect predominates.[135]

As noted, recent scholarship has revealed that the price effects resulting from reductions in the number of competitors in city-pair markets within the U.S. have been diminishing.[136] The causes of these effects are unclear. The diminished effects may be the result of the airlines' having already exploited most of their market power, and so the merger creates little additional power to exploit; LCC competition provides another, complementary, explanation.[137] In a recent article, Brueckner, Lee, and Singer report that:

> [T]he period between 2000 and 2008 represented a period of tremendous growth for LCCs with their collective share of domestic . . . passengers increasing by more than half, from 22% to 36% . . . . LCC competition, whether it is in-market, adjacent or potential, exerts a dramatic negative effect on fares in airline markets.[138]

As we have argued elsewhere, a straightforward rationale can be offered for why the DOJ approved the three recent mergers: The legacy carriers were unlikely either to compete vigorously on routes that they share or to enter as contestants beyond their long-established basic networks.[139] On the other hand, various studies have demonstrated both theoretically and empirically that the creation of denser route networks can raise welfare.[140] By raising the value of a typical itinerary to a typical customer, some price rises are consistent with overall purchaser welfare gains. In fact, a recent study by Carlton

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133. See Robert Bork's opinion in Rothery Storage & Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 220-21 (D.C. Cir. 1986).

134. *See* GIFFORD & KUDRLE, *supra* note 4, at 25-28. The appropriate standard for this determination in the U.S. is unsettled, but enforcers typically use the consumer standard. *See id.* In the EU, the consumer standard is settled law. *See id.*

135. *See id.* at 27.

136. *See* BRUECKNER, LEE & SINGER, *supra* note 103, at 4.

137. *See* Jan K. Brueckner, Darin Lee & Ethan S. Singer, *Airline Competition and Domestic US Airfares: A Comprehensive Reappraisal*, 2 ECON. TRANSP. 1, 7, 11 (2013).

138. *Id.* at 11.

139. *See* GIFFORD & KUDRLE, *supra* note 4, at 49.

140. *See* Kai Hüschelrath & Kathrin Müller, *Airline Networks, Mergers, and Consumer Welfare*, 48 J. TRANSP. ECON. & POL'Y 385, 385 (2014).

et al. shows both an increase in demand and lower prices on routes that had already been served by the merging airlines.[141] Such mergers, which greatly increase concentration beyond what the merger guidelines would ordinarily regard as acceptable, could be justified by the guidelines' recognition of product quality improvements anticipated from the merger.[142]

In the merger of Delta and Northwest in 2002, the airlines, although competitors, each contributed an extensive, non-overlapping network to the merged company and thus added significant value that would accrue to consumers.[143] This increased consumer benefit plus the production efficiencies generated by the merger probably more than offset the merger's price effects, which, as noted, were likely to be modest.[144] The merger of United and Continental in 2010 similarly produced significant consumer benefit from network effects and efficiencies that in combination offset all or much of the merger's price effects.[145] The DOJ, however, additionally required a significant freeing up of slots (and three gates) for the benefit of LCCs as a step toward increasing competition.[146] The merger of American and US Air was approved by the DOJ under similar techniques, including the mandatory release of slots.[147] In these three merger cases, the DOJ's approval appears to have been grounded on the diminishing price effects;[148] the consumer benefit expected from the network effects and merger-generated efficiencies;[149] plus, in the last two cases, the anticipated competitive effects produced by the slot releases.[150] Consistent with the importance attributed to slot releases by the DOJ in its evaluation of domestic mergers, we will see that slot releases also play a critical role in the Department of Transportation's (DOT's) review of international airline alliances.

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141. *See* Dennis Carlton, et al., *Are Legacy Airline Mergers Pro- or Anti-Competitive? Evidence from Recent U.S. Airline Mergers*, INT'L J. INDUS. ORG. (forthcoming 2018) (manuscript at 3).

142. *See* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 3, at 29. The merger guidelines recognize the theoretical relevance of the non-price effects of mergers. *See id.* at 10 (stating the enforcement agencies methodology is concentrated on price effects because those effects are quantifiable "not because price effects are more important than non-price effects").

143. *See* Gifford & Kudrle, *supra* note 3, at 566-69 (discussing the contribution of network effects to the consumer benefit generated by recent domestic mergers).

144. *See id.* at 568.

145. *See id.* at 570-72.

146. *See id.* at 572.

147. *See id.*

148. *See id.* at 571.

149. *See id.* at 572

150. *See id.* at 572-73.

The old national barriers to mergers within the EU involving airlines from different EU member states no longer apply. In the so-called "open skies" cases, the Court of Justice ruled on the lawfulness of treaties between the U.S. and certain member states of the EU.[151] The problem arose because those member states that had entered into a treaty had acquired rights for their national airlines that were not available to airlines from other member states.[152] The Court saw this as discrimination against the member states that had not entered into such a treaty and their airlines.[153] In effect the ruling meant that, for purposes of airline regulation, the EU as a whole would be treated as a single state.[154] This development thus changed the rules for mergers and potential mergers within the EU, but mergers between an EU-based airline and an airline from a non-EU country (such as the U.S., for example) remained subject to the old rules and remained prohibited.[155] The Commission, under these new rules, approved the merger of British Airways and Iberia in 2010[156] and Aer Lingus's takeover by IAG in 2015.[157] While intra-EU political boundaries no longer constrain mergers between EU airlines, competition rules continue to apply.[158] It was on these grounds that the Commission blocked Ryanair's attempted takeover of Air Lingus three times.[159]

G. Anti-Competitive Conduct

Following the 1991 Cooperation Agreement and the 1998 Positive Comity Agreement, transatlantic cooperation is apparently very close on price-fixing investigations. Several major airlines were involved in price-fixing schemes on air freight a decade ago, and

151. *See generally* Case C-467/98, Comm'n v. Denmark, 2002 E.C.R. I-9528; Case C-466/98, Comm'n v. United Kingdom, 2002 E.C.R. I-9496.

152. *See* European Commission Press Release IP/02/1609, Open Sky Agreements: Commission Welcomes European Court of Justice Ruling (Nov. 5, 2002) (describing the background leading up to the "open skies" cases and the Court's ruling).

153. *See generally Denmark*, 2002 E.C.R. I-9528.

154. *See* Air Transport Agreement, 2007 O.J. (L 134) 4 (resolving the problem raised by separate airline agreements between the U.S. and particular member states of the EU).

155. *See supra* notes 21-23 and accompanying text.

156. *See* European Commission Press Release IP/10/938, Mergers: Commission Approves Merger Between British Airways and Iberia (July 14, 2010).

157. *See* European Commission Press Release IP/15/5371, Mergers: Commission Approves Acquisition of Aer Lingus by IAG, Subject to Conditions (July 14, 2015).

158. *See* Council Regulation 139/2004, 2004 O.J. (L 24), 1.

159. *See* European Commission Press Release IP/13/167, Mergers: Commission Prohibits Ryanair's Proposed Takeover of Aer Lingus (Feb. 27, 2013).

settlements were reached.[160] The DOJ conducted an investigation of possible collusion on capacity restraint by the major U.S. carriers in 2015 and 2016, but that investigation was ultimately dropped for lack of evidence.[161]

Both the U.S. and the EU pursue cartel cases by extending leniency to the first cooperator.[162] The EU also offers reduced penalties for subsequent cooperation, and the U.S. offers plea bargaining.[163] The only major differences on airline cartel behavior across the Atlantic have nothing to do with this specific industry but inhere in basic legal differences between the two legal systems that impede cooperation and cannot be easily circumvented: In the U.S., antitrust violations can result in criminal sanctions being imposed upon individuals under the Sherman Act, and treble damages can be levied in private actions.[164] Neither result is possible in the EU.[165] The availability of treble damages largely explains why three-quarters of U.S. antitrust cases arise in private litigation.[166] In EU proceedings, penalties still involve only fines levied against firms following a finding of illegality by the Commission.[167] Compensation for injury caused by an antitrust violation is a right recognized by EU institutions, "but its exercise is governed by national rules."[168] As a result, according to the Commission, "most victims, particularly SMEs [small and medium size enterprises] and consumers, rarely obtain compensation."[169] On the Commission's recommendation, however, the European Parliament and Council have adopted a directive that attempts to reduce the impediments to recovery of damages for injuries caused by

160. *See* Vanessa Page, *Justice Department Said to be Dropping Airline Collusion Case (DAL, AAL)*, INVESTOPEDIA (Jan. 13, 2017, 1:55 PM) https://www.investopedia.com/news/justice-department-said-be-dropping-airline-collusion-case-dal-aal/#ixzz508W8AcEJ [https://perma.cc/2S4H-UD9A].

161. *See id.* Agreements among airlines limiting capacity growth would be problematic. Unless precisely drafted, they would present almost insuperable interpretive issues, and it is doubtful that any such agreement could escape detection by airline legal counsel.

162. *See* GIFFORD & KUDRLE, *supra* note 4, at 213.

163. *See id.* at 20, 22, 213; *see also* Robert E. Bloch, Jens Peter Schmidt, Gary A. Winters & Jennifer Driscoll, *Plea Bargaining and Settlement Procedures in the United States and Europe*, in LENIENCY IN CARTEL INVESTIGATIONS IN THE UNITED STATES AND EUROPE (2007).

164. *See id.* at 17-18.

165. *See id.*

166. *See id.* at 18.

167. *See Antitrust Actions for Damages Overview*, EUR. COMMISSION http://ec.europa.eu/competition/antitrust/actionsdamages/index.html [https://perma.cc/S3LH-K8NM] (last visited Oct. 22, 2018).

168. *Id.*

169. *Id.*

antitrust violations.[170] The damages issue was brought to a head in the air-freight proceedings, which began in 2006, resulting in the European Commission's imposition of substantial fines on a number of carriers for concerted price fixing.[171] Follow-up actions on behalf of the conspiracy's victims were instituted in several national courts.[172] When the General Court reversed the Commission's decision for internal inconsistencies,[173] the damages actions were thrown into disarray because the national courts are required to follow the lead of the Commission when they consider damages.[174]

The EU proceedings highlight differences in the effectiveness of European and American antitrust laws to compensate those injured by antitrust violations. While the European air cargo litigation was mired in unresolved procedural issues, an antitrust class action against the air cargo conspirators in the U.S. produced a series of settlements totaling $1.2 billion. The EU ultimately also fined the participating firms €776 million in 2017, but injury (damage recovery) claims remained to be litigated.[175]

H. Predatory Behavior

Several cases in the U.S. have focused on the role of predatory pricing as a key element in exclusion, but the usual average variable cost standard for incumbents has not prevented effective predation. In the EU, where the legal standards governing predatory pricing are broad enough to allow greater challenge to questionable pricing practices, no predatory pricing cases have been brought by the EU Commission against any airline company.

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170. *See generally* Directive 2014/104 of the European Parliament and of the Council of 26 November 2014 on Certain Rules Governing Actions for Damages Under National Law for Infringements of the Competition Law Provisions of the Member States and of the European Union, 2014 O.J. (L 349).

171. *See* General Court of the European Union Press Release No. 147/15, The General Court Annuls the Decision by Which the Commission Imposed Fines Amounting to Approximately €790 Million on Several Airlines for Their Participation in a Cartel on the Airfreight Market (Dec. 16, 2015).

172. *See, e.g.*, Geert Goeteyn, Susanna Charlwood & Agostino Bignardi, *Temporal Scope of Follow-On Claims in the Air-Transport Sector: The English High Court Rules in Favour of Air Cargo Defendants, Subject to Pending Appeal* (Sept. 4, 2018), http://gettingthedealthrough.com/area/27/article/29275/private-antitrust-litigation-temporal-scope-follow-o-claimants-air-transport-sector-english-high-court [https://perma.cc/2LX9-397C].

173. *See id.*

174. *See id.*

175. *See* European Commission Press Release IP/17/661, Antitrust: Commission Re-adopts Decision and Fines Air Cargo Carriers €776 Million for Price-fixing Cartel (Mar. 17, 2017).

In the U.S., the Supreme Court adopted the *Brooke Group* predation standard in 1993,[176] although the basic components of that standard were known earlier and were imbedded in the Court's case law.[177] The *Brooke Group* standard requires two criteria to be met beyond the possession of market power (which would typically be indicated by market share): sales below an appropriate measure of cost and a likelihood of recoupment.[178] The appropriate cost standard was undefined in *Brooke Group* although the Court had earlier suggested some version of incremental cost would be satisfactory.[179] The lower courts generally use average variable cost as the effective boundary between predatory and non-predatory pricing.[180]

The *Brooke Group* format was severely tested in the American Airlines case.[181] The DOJ filed suit against American Airlines in 1999 for predatory behavior towards several LCCs: Vanguard, Western Pacific, and Sunjet, on three routes connecting Dallas-Fort Worth with Wichita, Colorado Springs, and Long Beach.[182] The district and circuit courts attempted as far as possible to follow the scheme established in *Brooke Group* of determining (1) that the incumbent would have market power without the additional competition provided by the LCCs, (2) that American engaged in pricing below some appropriate measure of its costs, and (3) that there was a "dangerous probability" of subsequent recoupment of losses incurred during the predatory

176. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 222-24 (1993).

177. *See, e.g.*, Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 117 (1986) (defining predatory pricing as "pricing below an appropriate measure of cost"); Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 589 (1986) (emphasizing the relevance of recoupment).

178. *See Brooke Grp.*, 509 U.S. at 222-24 (explaining the two criteria for predatory pricing).

179. *See, e.g.*, *Cargill*, 479 U.S. at 117-18 n.12 (declining to consider recovery when pricing is above incremental cost); *Matsushita*, 475 U.S. at 585 n.9 (stating that the Court will not consider recovery when pricing is above incremental cost); *see also Brooke Grp.*, 509 U.S. at 223 (noting earlier opinions in which the Court has declined to consider recovery based on pricing above incremental cost). Incremental cost has been interpreted as some measure of avoidable cost. *See Competition and Monopoly: Single Firm Conduct under Section 2 of the Sherman Act: Chapter 4*, U.S. DEP'T JUSTICE, https://www.justice.gov/atr/competition-and-monopoly-single-firm-conduct-under-section-2-sherman-act-chapter-4 [https://perma.cc/876F-XJA8] (last visited Oct. 22, 2018) (stating that incremental cost is another name for avoidable cost).

180. *See* Phillip E. Areeda & Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697, 700 (1975) (explaining the relationship between average variable cost and marginal cost). Average variable cost is a short-cut approximation of marginal cost. *See id.*

181. *See* United States v. AMR Corp., 335 F.3d 1109, 1120 (10th Cir. 2003).

182. *See id.* at 1112-13.

period.[183] (The recoupment issue was cast in "dangerous probability" language because the plaintiffs charged American with attempted monopolization.)[184] American Airlines claimed that it was simply meeting competition by matching the lower prices of the LCCs.[185] Both sides attempted to establish whether American actually did price below the usually accepted average variable cost standard.[186] Although the district and circuit courts left the appropriate standard unresolved because the DOJ's cost estimates were rejected,[187] the circuit court did affirm that the appropriate cost was only additional capacity and not opportunity cost.[188]

The DOJ argued that American's increased capacity on the contested routes greatly diluted demand for the newcomers' similarly priced product—and therefore constituted a violation of § 2 of the Sherman Act independent of predatory pricing—but the courts did not accept the argument.[189] Significantly, however, the circuit court did not reject DOJ's contention that predatory pricing in one venue need not result in recoupment there alone but instead could plausibly have broader profitability impact by signaling the fate of entrants in other markets.[190]

In 2000, Spirit Airlines sued Northwest Airlines for violating § 2 of the Sherman Act.[191] The pattern again involved lowering prices toward that of the entrant while greatly increasing capacity with the effect of reducing demand for the entrant's offering.[192] This was

183. *See generally id.*
184. *See id.* at 1111.
185. *See id.* at 1120 n.15.
186. *See id.* at 1113.
187. *See id.* at 1120-21.
188. *See id.* at 1119.
189. *See id.* at 1113.
190. Gregory J. Werden, *The* American Airlines *Decision: Not with a Bang but a Whimper*, 18 ANTITRUST 32, 35 (2003) ("[O]ne might infer that the court implicitly accepted the Department's recoupment theory."); *see also AMR Corp.*, 335 F.3d at 1115.
191. *See* Spirit Airlines, Inc. v. Northwest Airlines, Inc., 431 F.3d 917, 921 (6th Cir. 2004); *see also* Spirit Airlines, Inc. v. Northwest Airlines, Inc., No. 00-71535, 2003 WL 24197742, at *1 (E.D. Mich. Mar. 31, 2003) (indicating the date of the commencement of Spirit's lawsuit against Northwest). For a discussion of the case, see generally James L. Robenalt, Note, *Predatory Pricing in the Low-Fare Airline Market: Targeted, Discriminatory, and Achieved with Impunity*, 68 OHIO ST. L.J. 641 (2007); *see also generally* Thomas Gorin & Peter Belobaba, *Assessing Predation in Airline Markets with Low-Fare Competition* (Indus. Studies Ass'n Working Paper Series, Paper No. WP-2005-07, 2005), http://isapapers.pitt.edu/63/ [https://perma.cc/5YGF-HU4P].
192. *See Spirit Airlines*, 431 F.3d at 923-24.

followed by a sharp increase in price after the LCC's withdrawal.[193] Spirit constructed a case that did not involve recoupment beyond the Detroit airport.[194] Instead, it argued that delays in new entry alone would have made Northwest's price and capacity changes profitable.[195] Although Spirit's case was rejected by the district court's summary judgment, the Sixth Circuit Court of Appeals remanded the case for a full trial in 2005.[196] Spirit then dropped the case after Northwest filed for bankruptcy.[197] We are left with no resolution of the usefulness of the predatory-pricing doctrine in the airline industry.

The DOT received many airline predation complaints by the late nineties.[198] In response, the DOT issued a proposed approach to predation in 1999 tailored especially to the airline industry and based upon a legal framework different from the one developed by the courts.[199] The DOT proposal bypassed the prevailing precedent (most notably *Brooke Group*) by not employing price and cost relations at all.[200] Instead the test would simply be whether or not a capacity expansion by a dominant firm costs that firm more revenue than the entrant would have diverted from it or costs more than the result of either matching the entrant's fares or establishing the same relative fares as with better established entrants elsewhere.[201]

Although the DOT's proposal was based on its legal authority to prevent unfair or deceptive practices or unfair methods of competition,[202] it did not fare well. Congress responded to the Department's proposal by mandating a study by the National Academies' Transportation Research Board (TRB), which failed to endorse the DOT's policy.[203] A Government Accountability Office report of 1999 noted that several airlines had criticized the DOT proposal's language as vague, and that the DOT was planning on

193. *See id.* at 924.
194. *See id.* at 930.
195. *See id.* at 951.
196. *See id.* at 921.
197. *See* Kenneth G. Elzinga & David E. Mills, *Predatory Pricing in the Airline Industry:* Spirit Airlines v. Northwest Airlines, *in* 6 THE ANTITRUST REVOLUTION: ECONOMICS, COMPETITION, AND POLICY 307, 333 (John E. Kwoka, Jr. & Lawrence J. White eds., 2014).
198. *See, e.g.*, Enforcement Policy Regarding Unfair Exclusionary Conduct in the Air Transportation Industry, 63 Fed. Reg. 17,919, 17,919 (Apr. 10, 1998).
199. *See generally id.*
200. *See id.* at 17,920; *see also generally* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993).
201. *See id.*
202. *See* 49 U.S.C. § 41712 (2012).
203. *See* U.S. DEP'T OF TRANSP., OST-98-3713, ENFORCEMENT POLICY REGARDING UNFAIR EXCLUSIONARY CONDUCT IN THE AIR TRANSPORTATION INDUSTRY (2001).

refining its terminology.[204] Finally, in January 2001, the DOT decided to deal with predatory behavior in fact-specific adjudications under § 41712.[205]

In the EU, prices below average avoidable cost[206] are viewed as predatory, costs between average avoidable costs and long run incremental costs as subject to question, and prices above that level as a safe harbor.[207] The enforcing agency for the EU, the European Commission, aims to discover a predatory strategy and regards only pricing below long-run incremental costs as usually capable of foreclosing an equally efficient competitor.[208] Although it has elsewhere recognized the usefulness of a recoupment test for evaluating predatory pricing, the Commission, in its current guidance, uses a test of whether a dominant firm has been able to strengthen its market power.[209]

The major airline predatory pricing case in the EU, *Lufthansa v. Germania*, was handled by the German *Bundeskartellamt*[210] rather than DG Comp[211] and reveals a very different approach from that of the U.S. authorities.[212] A small German start-up, Germania, began offering a Frankfurt-Berlin one-way ticket in late 2001 at €99 when Lufthansa was charging more than four times that amount for a round-trip flight.[213] Lufthansa immediately introduced a €100 one-way ticket.[214] The German authority attacked the response on three grounds. First, the higher quality of the Lufthansa product meant that the quality-corrected price was actually lower than Germania's. Second, the introduction of the low price on only one route suggested

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204. *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-99-225, AVIATION COMPETITION: INFORMATION ON THE DEPARTMENT OF TRANSPORTATION'S PROPOSED POLICY 15 (1999).

205. *See* U.S. DEP'T OF TRANSP., *supra* note 203.

206. *See* Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, 2009 O.J. (C 45) 7, 11 n.2 [hereinafter *Guidance*]. For a discussion of how the average avoidable cost differs from more familiar cost measures, see generally William J. Baumol, *Predation and the Logic of the Average Variable Cost Test*, 39 J.L. & ECON. 49 (1996).

207. *See* Case C-62/86, Akzo Chemie BV v. Comm'n, 1991 E.C.R. I-3439, 3455.

208. *See Guidance*, *supra* note 206, at 17.

209. *See id.*

210. Germany's Federal Cartel Office.

211. The Directorate-General for Competition of the European Commission.

212. *See* BKartA 2002, B 9-144/01, https://www.bundeskartellamt.de/SharedDocs/Entscheidung/DE/Entscheidungen/Missbrauchsaufsicht/2002/B9-144-01.pdf?__blob=publicationFile&v=4 [https://perma.cc/J57M-UJ2X].

213. *Id.*

214. *Id.*

a possibly predatory strategy. Third, it was argued that the price charged by Lufthansa did not cover *durchschnittlichen Gesamtkosten* (average total cost),[215] a criterion that seems stricter than that typically used in the EU, as noted in the previous discussion, and much higher than employed in the U.S. The *Bundeskartellamt* insisted that the Lufthansa price be at least €35 higher than Germania.[216] This was based on a calculation of an imputed price for the ticket alone, subtracting from the total price paid the following amounts for "free" customer benefits: €1 for a newspaper, €2 for a soft drink, €12 for frequent flier miles, and €25 for higher frequency of flights.[217] This was followed by a downward adjustment to €35.[218] The determination of the final (and largest) factor seems particularly problematic. Overall, the apparent objective of the remedy was to bar Lufthansa from pricing below the quality-adjusted price of the entrant.

The quality-corrected price seems conceptually confused. The issue that the *Bundeskartellamt* dealt with was whether the Lufthansa customer received more for his money than the Germania customer. A straightforward resolution of the predatory issue would compare prices and costs. There was no dispute about the price of the Lufthansa ticket. Therefore, the proper issue is whether Lufthansa sold the ticket below its cost. There is no need to adjust price for quality. The approach of the *Bundeskartellamt* appears to be an attempt to follow the approach of the Court of Justice, which has ruled that, where predatory strategy is shown, it is appropriate to use an average total cost standard.[219]

There have been many suggested remedies for predatory behavior toward entrants that completely ignore price-cost analysis, and several have aimed specifically at the airline industry. One of the continuing difficulties in this area is a lack of definitional consensus on predation. The U.S. Supreme Court defined predation in *Brooke Group*,[220] the DOJ tried out a broader definition in the American Airlines case,[221] the European authorities have formulated definitions that downplay recoupment and tend to heighten the importance of

215. *See id.*
216. *Id.*
217. *Id.*
218. *Id.*
219. *See* Case C-62/86, Akzo Chemie BV v. Comm'n, 1991 E.C.R. I-3439, 3455-56. Pricing below average total cost but above average variable cost is predatory only if the seller is shown to be following a strategy to eliminate competitors.
220. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 222-24 (1993).
221. *See generally* United States v. AMR Corp., 335 F.3d 1109 (10th Cir. 2003).

intent, and the DOT developed its approach, discussed above.[222] In addition, Oliver Williamson proposed in 1977 that incumbents not be allowed to expand their output for twelve to eighteen months following entry,[223] while William Baumol suggested two years later that incumbents could reduce prices in response to entry but that they must then maintain those lower prices for a period following the departure of the entrant.[224] More recently, Aaron Edlin proposed that dominant incumbents be barred from price cuts, capacity expansion, or other product improvement until the entrant had succeeded in penetrating the market.[225] Einer Elhauge subsequently pointed out the perverse incentives that could result from Edlin's rule because the incumbent might respond by raising prices to reduce market share to a sufficient extent that the constraint was removed.[226]

But how serious is the problem in this industry? In an important study, Bamberger and Carlton examined data on entry, exit, and prices in U.S. city-pair markets from 1991 through 2003.[227] While conceding that "our analysis cannot rule out isolated instances of predatory conduct," aggregate data suggest most new entrants were successful during the major period of DOT concern, 1995–1999, by the criterion of service to a city for a least a year following the establishment of at least 1% market share.[228] In addition, entry was not followed by substantial fall in established carriers' average fares,[229] nor did those fares rise after low-fare carrier's exit. Finally, the growth of LCC market penetration from 1999–2003 does not seem to have been the result of less aggressive competition by the established carriers.[230]

Our view is that the current situation does not demand a clear new policy on predatory pricing for airlines and that the current

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222. *See* U.S. DEP'T OF TRANSP., *supra* note 203.

223. *See* Oliver E. Williamson, *Predatory Pricing: A Strategic and Welfare Analysis*, 87 YALE L.J. 284, 295-96, 333-36 (1977).

224. *See* William J. Baumol, *Quasi-Permanence of Price Reductions: A Policy for Prevention of Predatory Pricing*, 89 YALE L.J. 1, 3 n.8 (1979).

225. *See* Aaron Edlin, *Stopping Above-Cost Predatory Pricing*, 111 YALE L.J. 941, 946 (2002).

226. *See* Einer Elhauge, *Why Above-Cost Price Cuts to Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power*, 112 YALE L.J. 681, 687-88 (2003).

227. *See generally* Gustavo E. Bamberger & Dennis W. Carlton, *Predation and the Entry and Exit of Low-Fare Carriers*, *in* ADVANCES IN AIRLINE ECONOMICS (Darin Lee ed., 2006).

228. *Id.* at 1.

229. *See id.* Notice that this is not inconsistent with the "Southwest Effect" documented by Goolsbee and Syverson because they considered the effect of *anticipated* entry, which escapes the purview of Bamberger and Carltons's data. *See generally* Goolsbee & Syverson, *supra* note 99.

230. *See* Bamberger & Carlton, *supra* note 227.

ambiguity on both sides of the Atlantic is probably benign. It appears unlikely that the FSC carriers in Europe will engage in targeted attacks on LCCs if for no other reason than a fear that DG Comp will follow the lead of the *Bundeskartellamt*. Moreover, it appears unlikely that EU Courts would find such an intervention illegal. And the prevailing ambiguity on the western side of the Atlantic may be discouraging possibly predatory behavior as well. The DOT's legal position allows for non-specific action against unspecified behavior, and there is no recent indication that predatory behavior is seriously retarding the role of low-cost carriers. All carriers know that nothing other than Congressional action can prevent the DOT from intervening in a particular situation if it chooses to do so, despite the difficulty of a private claim. The usual national U.S. antitrust concern about sending clear economy-wide signals simply does not apply. Similar to the FTC's use of § 5 of the Federal Trade Commission Act to attack Intel and achieve a settlement in 2009 without setting a precedent for the courts,[231] the regulators can find an accommodation that does not extend beyond airlines and creates no precedent for private action.

If the U.S. policy posture turned narrowly on below average variable cost pricing and recoupment in a single market, then the possibility of transatlantic conflict in cases involving possible predation might well arise. But as the earlier discussion made clear, the DOJ may have established in the American Airlines case that recoupment can involve multiple markets. Moreover, while DOT's proposed solution to airline predation without a consideration of price-cost relations was rejected, it still retains great latitude in its regulation of the industry for purposes of promoting competition.[232] Put otherwise, both of the relevant U.S. enforcers have a history of pushing for close attention to predatory behavior and have been frustrated by other judicial and political forces. A plausible inference is that U.S. enforcers would be unlikely to object to strict EU enforcement and that they would sympathize with EU concerns about possible predatory behavior by U.S. firms.

I. Market Imperfections Connected with Airport Facilities

A major distinguishing feature of the airline industry globally is its dependence on specific complementary inputs such as airports and all measures for safety and security that are either publicly owned or subject to extensive continuous public regulation.

231. GIFFORD & KUDRLE, *supra* note 4, at 121.
232. *See* U.S. DEP'T OF TRANSP., *supra* note 203.

As the discussion below shows, limits imposed by airport facilities generate significant competitive effects at some U.S. airports. The problem, where it occurs, arises because of a scarcity of gates and slots (the use of airspace and ground facilities at a particular time) disproportionally affecting LCCs attempting to compete with legacy carriers.

Particularly in a comparative policy context, gates and slots must be sharply distinguished. In the U.S., the disposition of both limited gate space and slots have typically been subject to administrative rules that have favored incumbents. In the U.S, but not in the EU, gates are commonly leased to airlines under exclusive long-term leases. Although the leasing airline sometimes subleases to other carriers for short terms, this arrangement keeps ultimate control in the hands of the long-term lessee. In the EU, the complex pattern of traffic involving many more carriers at most airports than is typical in the U.S has led to practices in which gates are now seldom controlled by specific carriers.

In response to the concerns about entry in the 1990s, already discussed, in 2000 Congress enacted the Wendell H. Ford Aviation and Investment and Reform Act for the 21st Century (AIR-21).[233] At airports in which a single airline generated more than 50% of the passenger volume, federal funding was to be contingent on the Federal Aviation Administration (FAA) acceptance of a plan to increase competition in order for the airport to be eligible for federal financial aid.[234] Empirical studies of the airports affected by that legislation, before and after its passage, reveal some important findings. Prior to the legislation, when the number of gates controlled by a carrier increased from 10 to 30%, fares increased by 3% and prices were 2% lower when sublease fees were controlled.[235] And the price increases became more severe with congestion, defined as the ratio of flights to gates.[236] Where there were 600 departures per gate per quarter, a 30% difference in gates leased led to a 6% change in fare, whereas at one-third that level of congestion, the difference changed proportionally to 2%.[237] This suggests that where the AIR-21 legislation was seriously implemented, the impact on fares could have been substantial, and that

233. *See* Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, Pub. L. No. 106-18, § 1, 114 Stat. 61, 61 (2000).

234. *See id.* § 155(b), 114 Stat. at 88.

235. Federico Ciliberto & Jonathan W. Williams, *Limited Access to Airport Facilities and Market Power in the Airline Industry*, 53 J.L. & ECON. 467, 469 (2010).

236. *See id.*

237. *Id.*

is what Snider and Williams found.[238] Those airline markets that included one airport that implemented an approved competition plan experienced an average 13% price decline, and those markets with such airports at both ends had a 20% decline.[239] There was some increased congestion but not enough to outweigh the gains from the very substantial price drops. This points to the desirability of increased airport facilities, but such expansion has been hindered by the $4.50 cap on federal passenger facility charges that has been in place since 2001.[240] Large carriers have wanted neither an increased tax burden nor greater ease of entry for competitive carriers.[241]

Another approach to increasing the effective capacity of airports in the U.S. is the sharing of gates. As leases have expired, an increasing number of U.S. airports have insisted on arrangements that increase the effective number of gates by obliging carriers to share.[242] Because gates in EU airports are generally not controlled by particular carriers,[243] airport-generated constraints on entry within the EU are almost entirely due to the scarcity of slots. A sharp transatlantic difference looms here. In the U.S., the so-called High Density Rule of 1969[244] subjected five U.S. airports—Washington National (now Reagan National), LaGuardia, Kennedy, Newark, and O'Hare—to slot control, under which each airline had a fixed quota of takeoffs and landings at specific times.[245] Today only Reagan National is under complete slot control, although the New York airports are subject to intermittent control. The issue of slot scarcity has remained sufficiently pressing, however, that as recently as the United/Continental merger in 2010 and the American/US Air merger in 2013, the Justice Department required extensive slot divestiture as a condition of its approval of the mergers.[246] The issue of slot scarcity appears far more pressing in Europe where as many as eighty airports have slot control, although often only for peak times of the day.[247]

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238. *See* Connan Snider & Jonathan W. Williams, *Barriers to Entry in the Airline Industry: A Multidimensional Regression-Discontinuity Analysis of AIR-21*, 97 REV. ECON. & STAT. 1002, 1002 (2015).

239. *Id.* at 1012.

240. *See id.* at 1003.

241. *See id.*

242. *See* Susan Stellin, *Sharing Catches on at Airports*, N.Y. TIMES (Nov. 7, 2011), https://www.nytimes.com/2011/11/08/business/at-airports-a-new-strategy-is-catching-on-sharing.html [https://perma.cc/N9WZ-Q2WN].

243. *See id.*

244. *See* High Density Traffic Airports, 14 C.F.R. § 93.123 (1969).

245. *See id.*

246. *See* Kudrle & Gifford, *supra* note 64, at 572-75.

247. *See* James D. Reitzes et al., *Competitive Effects of Exchanges or Sales of Airport Landing Slots*, 46 REV. INDEP. ORG. 95, 95-96 (2015). The study suggests high

All EU airports are now subject to 2007-08 Commission rules that favor entrants in the allocation of slots and condemn any favoritism towards particular established carriers.[248] This could be bolstered further by legislation pending in the European Parliament. One assessment notes: "It must also be pointed out that, even if the new entrant rule has not been overall extremely successful at promoting sustainable competition, it has made it possible for low-cost airlines such as Ryanair and especially EasyJet to achieve significant growth at some congested airports."[249] In fact, an important recent trend in the EU is the increased use of main hubs rather than secondary airports by LCCs.[250]

Further alleviation of the slot scarcity problem could generate further potential LCC competition in the EU. In the U.S., the problem of slot scarcity appears to be centered on New York area airports and on Reagan airport in Washington. Of these airports, Newark and Kennedy service transatlantic flights. Emergent LCC transatlantic competition could be affected at these airports.

The role of the private sector in airport ownership varies greatly around the world. The current infrastructure of the U.S. air transport system is funded by a combination of local and federal monies, some of which come from airport use taxes and from bond issues.[251] The bonds have sometimes been purchased by airlines, which can then enable them to exercise influence ("right in interest") over airport expansion activity that could facilitate entry.[252] In Canada, airports are leased by the federal government to not-for-profit private management, while in France and Germany, the government has

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social gains from increasing the use of slot control at more U.S. airports. *See generally id.*

248. EU governance of slot allocation dates back to Council Regulation 95/93 of January 18th, 1993. *See generally* Council Regulation 95/93, 1993 O.J. (L 14). Regulation 95/93 was amended by Regulation 793/2004, which contained provisions dealing with problems faced by new entrants. *See* Council Regulation 793/2004, 2004 O.J. (L 138) 50. Commission Communications in 2007 and 2008 effectively strengthened the position of new entrants. More recently, the Commission has proposed a recast of the slot regulation designed to help new entrants gain access to slots at congested airports. *See generally also Proposal for a Regulation of the European Parliament and of the Council on Common Rules for the Allocation of Slots at European Union Airports*, COM (2011) 827 final (Jan. 12, 2011).

249. *See* Andrea Ranieri et al., *Airport Slot Allocation: Performance of the Current System and Options for Reform*, SESAR (Nov. 26, 2013), https://www.sesarju.eu/newsroom/brochures-publications/airport-slot-allocation-performance-current-system-and-options [https://perma.cc/D4F7-ULFB].

250. *See* Burghouwt, et al., *supra* note 2, at 27-28.

251. *See* David Gillen, *The Evolution of Airport Ownership and Governance*, 17 J. AIR TRANSP. MGMT. 3, 4 (2011).

252. *See* MORTON ET AL., *supra* note 83, at 43.

typically retained majority ownership.[253] In Denmark, Austria, and Switzerland, private interests are controlling.[254] In the UK, nearly every airport is private and operates at a moderate profit without regulation.[255] In 2016, 47% of all European airports were "mostly" or "fully" private; this was a huge increase over the 23% figure in 2010.[256] Airport ownership has seen less change in the U.S. than almost anywhere due to the exemption of public bonding from federal taxation as well as the federal subsidies already noted.[257]

Much of the large literature on the ownership and regulation of airports in recent years focuses on production efficiency, but competition issues are also considered.[258] Gillen stresses that airports are an important example of a two-sided market: air passage on the one hand and all of the commercial activity in the airport on the other.[259] In such a market, the volume of transactions depends on the structure as well as the level of fees.[260] In particular, this dissolves any simple welfare relation between price and cost for a particular activity because of the externalities generated by the various prices across the platform.[261] Intuitively, however, this still means that whatever is produced should take place at the lowest level of real cost and that consideration coupled with the pricing complications introduced by the two-sided market has drawn many observers to favor only light regulation of airports.[262] This may, in some circumstances, create a tension between maximum opportunity for entrants and various financial commitments from established carriers.[263] But, whatever the ownership structure, there is nearly always some public oversight, and that oversight, not just in North America and Europe but in many other

253. *See* Gillen, *supra* note 251, at 4, 5.

254. *See id.* at 4.

255. *See* David Starkie, *The Airport Industry in a Competitive Environment: A United Kingdom Perspective*, *in* OECD/ITF JOINT TRANSPORT RESEARCH CENTRE DISCUSSION PAPERS 1, 7, 14 (2008).

256. *See* AIRPORTS COUNCIL INT'L EUR., THE OWNERSHIP OF EUROPE'S AIRPORTS 4 (2016).

257. *See* Robert Poole & Chris Edwards, *Privatizing U.S. Airports*, 76 CATO INST. TAX & BUDGET BULL. 1, 1-2 (2016) (explaining that the U.S. also lags behind most of the developed world by continuing to employ a public traffic control system).

258. *See, e.g.*, Peter Forsyth, *Airport Policy in Australia and New Zealand: Privatization, Light-Handed Regulation, and Performance*, *in* AVIATION INFRASTRUCTURE PERFORMANCE: A STUDY IN COMPARATIVE POLITICAL ECONOMY 65 (Clifford Winston & Ginés de Rus eds., 2009).

259. *See* Gillen, *supra* note 251, at 12.

260. *See id.*

261. *See id.* at 8.

262. *See id.* at 9.

263. *See id.* at 12-13.

parts of the world as well, typically features access for entrants as a major and growing concern.[264]

The intent of Congress, the DOT, and the DOJ to promote maximum gate and slot availability in the U.S. is clear and consistent, but the effectuation of those goals lies with the myriad public authorities that control the operation and expansion of U.S. airports. One generalization appears safe: Nearly all U.S. airport managements now recognize that public interest demands demonstrated attention to the promotion of competition, and positive action seems to be growing almost everywhere. In the EU, dedicated gates are not common, but slot favoritism based on historic use prevails in many places. Nonetheless, complaints by disfavored airlines appear to generate intervention.[265] The EU has decided that airports are "undertakings" that must be run as commercial enterprises, and an element of that behavior must be nondiscrimination among carriers.[266] Sluggishness in slot availability continues to impede entry in the EU but it is not an insurmountable barrier.[267] While fully functional slot trading is not yet the norm, it represents a feasible public policy goal on both sides of the Atlantic.[268]

III. POLICY COMPATIBILITY IN A WORLD OF NATIONAL INDUSTRIES

The discussion so far has considered U.S. and EU developments as parallel phenomena along with some considerations of policy congruence.[269] But airlines are subject to unusual restrictions about national ownership and operations. The competitive significances of these considerations need explicit attention.

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264. *See id.*

265. *See* Jaap G. de Wit, *Unlevel Playing Field? Ah Yes, You Mean Protectionism*, 41 J. AIR TRANSP. MGMT. 22, 22-23 (2014).

266. *See* Burghouwt, et al., *supra* note 2, at 35.

267. de Wit, *supra* note 265, at 28 ("Even at the most congested airport in Europe, Heathrow, Emirates has been able to acquire the necessary slots, be it at a substantial price.").

268. *See* Jan Brueckner, *Airport Congestion Management: Prices or Quantities?*, 35 ACCESS 10, 10-14 (2009). Brueckner explores both congestion fees and slot trading and concludes that, while the determination of the optimal number of slots at congested airports will never be ideal, optimal congestion fees would not be politically feasible because they would be lower for larger airport users who would be able to internalize some of their own congestion. *See id.* He concludes that slot trading can work quite well, although he suggests improvements including a web-based clearing house that would hide the identities of buyers and sellers to replace bilateral trading. *See id.*

269. *See supra* Part II.

A. Airlines as an International Industry

The 1944 Chicago Convention saw a confident U.S. favoring a major role for markets in international air transport, while the rest of world, and notably Europe, feared U.S. domination. Much has been written here about the distinctive characteristics of airlines, but trade in air services shares two principal characteristics with other international trade. First, there is a general presumption in economics that the lowest cost provider globally will best serve national purchasers and, second, that vulnerable national providers will use any and all arguments and influence to stave off foreign competition.

The nascent airline industry in many countries began between the world wars in an environment of national security concerns about the emerging significance of air power and often with strong economic encouragement to source aircraft nationally. Air power played an important role in World War I and was certain to be critical in any future conflict. In addition, national airlines needed to be a dependable resource for national security purposes and for other emergency deployment. And from the beginning there was a critical concern for safety. This concern, too, argued for keeping control as reliable and transparent as possible—and thus restriction to nationals.[270] These concerns were codified in American New Deal legislation restricting foreign ownership,[271] and similar restrictions were adopted in most other countries.[272]

As post-war air traffic grew, it was quickly recognized that most high-income countries had comparably effective airline safety standards. And economies of scale—and particularly of accumulated output[273]—drove most national aircraft manufacturers from the market, thus removing another rationale for protection. But this still left the national "flag carriers" in many European states as proud, usually government owned, national symbols and often influential lobbies for an essentially mercantilist policy.[274] Bilateral agreements were struck that typically closely balanced national access offered for the foreign access gained.[275] This, of course, completely ignores the objectives of air travelers and others who gain from cheaper international travel to more destinations. The stylized history of recent

270. *See* Burghouwt, et al., *supra* note 2, at 52.

271. *See* Civil Aeronautics Act of 1938, Pub. L. No. 75-706, § 501, 52 Stat. 973, 1005-07 (1938).

272. *See* Burghouwt, et al., *supra* note 2, at 52.

273. *See generally* T.P. Wright, *Factors Affecting the Cost of Airplanes*, 3 J. AERONAUTICAL SCI. 122, 122-28 (1936) (discussing this concept).

274. *See* Burghouwt, et al., *supra* note 2, at 7.

275. *See id.*

decades finds increasing policy dominance of this latter group. Nevertheless, the industry has remained singular in many respects including its almost complete detachment from the various liberalizations under the General Agreement on Tariffs and Trade (GATT) and, more recently, the World Trade Organization's General Agreement on Trade in Services (GATS).[276]

B. The Many "Freedoms"

The language of international air transport liberalization employs nine categories of "freedom," only the first two of which have been largely non-controversial throughout. The original five "freedoms" entered public discourse at the 1944 Chicago Convention, which generated a Two Freedoms Agreement[277] and a Five Freedoms Agreement.[278] Although the U.S. initially endorsed the ambitious Five Freedoms Agreement, it ultimately withdrew from it, perhaps because it reduced the leverage that the Americans would have in bilateral deals. After the U.S. withdrew, the pursuit of multilateralism floundered, and the nations of the world pursued a mercantilist aviation policy.[279]

Over time other freedoms have been added to the five identified at the Convention.[280] The first freedom is simply the right by a flight originating in B to fly over national territory of A.[281] The second freedom is the right of flights from B to land for maintenance and refueling in A.[282] The third and fourth freedoms are the right of airlines in A to take passengers to B and vice versa.[283] The fifth freedom is the right of a B-based carrier to pick up or deliver passengers from third-

276. *See* BRIAN F. HAVEL, BEYOND OPEN SKIES: A NEW REGIME FOR INTERNATIONAL AVIATION 526-28 (2009). The GATS of 1995, one of the basic treaties of the World Trade Organization, recognized the obduracy of these special characteristics and completely omitted flight services from its very limited and highly qualified coverage of air travel services. *See id.* at 526 n.31. A certain limited subsectors of non-flight air service activities have been considered. *See id.*

277. International Air Services Transit Agreement, Dec. 7, 1944, art. 1, § 1, 59 Stat. 1693, 84 U.N.T.S. 389.

278. International Air Transport Agreement, Dec. 7, 1944, art. 1, § 1, 59 Stat. 1701, 171 U.N.T.S. 387.

279. Brian F. Havel & Gabriel S. Sanchez, *Restoring Global Aviation's "Cosmopolitan Mentalité"*, 29 B.U. INT'L L.J. 1, 12-14 (2011).

280. *See Freedoms of the Air*, INT'L CIV. AVIATION ORG. (last visited Oct. 22, 2018), https://www.icao.int/Pages/freedomsAir.aspx [https://perma.cc/W7WX-CWYB].

281. *See id.*

282. *See id.*

283. *See id.*

country airports to an airport in A.[284] The sixth freedom is the right of a carrier from B to use one of B's airports as a link between third-party traffic and an airport in A.[285] The seventh freedom in the right of an airline in A to move traffic between countries B and C completely unconnected with origin or destination in A.[286] The eighth freedom is the granting of a right by A for an airline from B to move passengers between designated airports in A so long as the flight either begins or ends in B.[287] Finally, the ninth freedom is complete non-discrimination—cabotage: the ability of a foreign airline to move passengers from one national airport to another without restriction.[288]

Convinced of the competitive potential of its own carriers, to meet the increasing demands of its high income travelling public and to promote more foreign expenditure in the U.S., the Carter Administration pursued bilateral, open skies agreements that aimed to make supply and demand the principal drivers of both air fares and flight frequency. The first agreement, with the Netherlands, came into force in 1992; it gave unrestricted landing rights on its soil to airlines registered in the other country.[289] Many similar agreements followed.[290] The most recent significant U.S. agreement was with Japan in 2010. Other bilateral and multilateral agreements elsewhere in the world in recent years not involving the United States have followed the open skies pattern.[291]

The most comprehensive agreement so far was struck by the U.S. and the EU in 2007.[292] It opened all U.S. and EU airports to all

284. *See id.*
285. *See id.*
286. *See id.*
287. *See id.*
288. *See id.* Our emphasis throughout this Article is passenger traffic, but, with some exceptions, the freedoms from various bilateral and multilateral agreements apply to cargo traffic as well. Although cargo carried by passenger planes brings significant revenue, cargo service is typically not considered together with passenger service because shippers are in a completely different market position. They consider alternative modes of transport quite differently from passengers and there are many air carriers—both domestic and international—that serve cargo shipment exclusively.
289. *See Countries with Bilateral Open Skies Agreements*, U.S. DEPT. OF TRANS. (Mar. 11, 2015), https://www.transportation.gov/policy/aviation-policy/countries-bilateral-open-skies-agreements [https://perma.cc/9S5Y-2RAU].
290. *See id.*
291. *See generally* Clifford Winston & Jia Yan, *Open Skies: Estimating Travelers' Benefits from Free Trade in Airline Services*, 7 AM. ECON. J. 370 (2015).
292. *See generally* U.S.-EU AIR TRANSPORT AGREEMENT OF APR. 30, 2007, U.S. DEP'T ST., https://www.state.gov/documents/organization/114872.pdf [https://perma.cc/MQM2-2DTX].

U.S. and EU airlines.[293] Moreover, it promised a range of cooperative activity on many matters including competition policy.[294]

A recent study by Winston and Yan estimates a huge saving from the U.S. open skies agreements up to 2015.[295] Their simulations find at least $4 billion in annual gains to purchasers in the affected markets.[296] They estimate that another $4 billion gain could be achieved if similar agreements could be struck between the U.S. and all other significant national airline markets.[297]

C. From Ownership Restrictions to Alliances

One of the most challenging policy issues today, the proper treatment of "alliances," grows directly from the national roots of the Chicago Convention of 1944, which, despite considerable liberalization, still prevails. Although recent bilateral agreements are far more market-oriented than in earlier decades, aviation remains a singular industry in its almost universal rejection of controlling foreign ownership of domestically-registered airlines and its granting of cabotage only to those airlines.[298] Liberalization has been modest: The 2007 U.S–EU Agreement relaxed some ownership restrictions, maintaining a 25% ceiling on voting equity and a 49.9% ceiling on total equity but with the additional provision that more than 50% ownership would be considered on a case-by-case basis.[299]

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293. *See id.* at 10; *see also* Button, *supra* note 18, at 59.

294. *See generally* U.S.-EU AIR TRANSPORT AGREEMENT OF APR. 30, 2007, *supra* note 292.

295. *See* Winston & Yan, *supra* note 291, at 370.

296. *Id.*

297. *Id.*

298. Very few national political figures in any country have favored cabotage. One exception was the Canadian Competition Commissioner Sheridan Scott in 2008. *See* Paul *Waldie* & Heather Scoffield, *Ottawa Urged to Unshackle Business*, GLOBE & MAIL, June 27, 2008, at B1. From the standpoint of economic welfare, the Commissioner might have been relatively unconcerned about the fate of the chronic loss-making Air Canada and more concerned with the almost certainly cheaper prices that would have subsequently been offered to the Canadian public. The suggestion did not prosper. The United States would never consider such a unilateral move because the absence of cabotage in the world's largest single air market gives it great leverage over others in prying open their markets. This, of course, parallels the "bargaining tariff" discussed in economics textbooks: If such leverage didn't exist—as it doesn't for Canada—national economic welfare might well be served by some version of cabotage legalization.

299. U.S.-EU AIR TRANSPORT AGREEMENT OF APR. 30, 2007, *supra* note 292, at Annex 4.

Unsurprisingly, the airlines have sought ways to extend the range of their markets by working around ownership restrictions.[300] Alliances are agreements that have developed in the airline industry that involve various forms of cooperation.[301] This cooperation can vary from basic arms-length arrangements involving code-sharing, lounge access, and/or frequent-flyer programs to highly integrated joint ventures in which the parties share revenues or profits.[302] At present, there are three major alliances: Star Alliance, SkyTeam, and oneworld.[303] The degrees of cooperation vary within each of the major alliances.[304] Thus there are twenty-six members of the Star Alliance but only three members participate in that alliance's joint venture (Air Canada, Lufthansa, and United).[305] Similarly, there are twelve members of SkyTeam but only three in that alliance's joint venture (Air France-KLM, Alitalia, and Delta).[306] Finally, there are eleven members of oneworld but only three in oneworld's joint venture (American, BA, and Iberia).[307] Competitive concerns focus mainly on the joint ventures that involve profit sharing.[308]

In an alliance involving a profit-sharing joint venture, the partners' shares of the venture's profits are not affected by the ownership of the planes employed on any given flight.[309] The airlines refer to such alliances as "metal neutral" in the sense that the parties are indifferent to the passengers' choices of carrier for any and all of the venture's flights.[310] Their sole interest is in the maximization of the venture's profits.[311]

D. U.S. Alliance Policy

The DOT possesses the authority to grant immunity from the antitrust laws to airline agreements that it finds not contrary to the public interest and must disapprove of any agreement "that

300. *See* EUR. COMM'N & U.S. DEP'T OF TRANSP., TRANSATLANTIC AIRLINE ALLIANCES: COMPETITIVE ISSUES AND REGULATORY APPROACHES 3 (2010), http://ec.europa.eu/competition/sectors/transport/reports/joint_alliance_report.pdf [https://perma.cc/JXM2-XV2C] [hereinafter EC/DOT REPORT].

301. *See id.* at 5.

302. *See id.* at 4.

303. *Id.*

304. *See id.* at 5.

305. *Id.* at 7.

306. *Id.*

307. *Id.*

308. *See id.* at 9.

309. *See id.* at 7.

310. *See id.*

311. *See id.* at 8-9.

substantially reduces or eliminates competition" unless the Transportation Secretary determines that the agreement "is necessary to meet a serious transportation need or to achieve important public benefits."[312] The DOT has been using this authority to approve various alliances since 1992 and has granted immunity to the three main alliances: SkyTeam,[313] Star Alliance,[314] and oneworld.[315] Like the DOJ in approving some recent mergers, the DOT has required releases of slots as a condition of granting alliance antitrust immunity.[316] In the case of the oneworld alliance, for example, the DOJ required that slots at London's Heathrow airport, a slot-constrained airport, be released as a condition of granting antitrust immunity.[317]

E. EU Alliance Policy

The European Commission regularly assesses mergers in the airline industry, such as the attempts by Ryanair to acquire Aer Lingus, which was found to involve excessive reduction of competition on the same routes.[318] Under EU competition law, airline alliances are generally viewed as contractual arrangements involving less integration than a merger.[319] Accordingly, they are governed by Article 101 of the Treaty and Functioning of the European Union (Article 101) and only rarely by the Merger Regulation.[320] Their evaluation follows the structure of that Article: Under Article 101's first clause, an assessment is made of the competitive effects of the transaction under review.[321] If the agreement or practice is determined to lessen competition, then the analysis proceeds to a second step in

312. 49 U.S.C. § 41309 (2012).

313. *See* AIRLINE ALLIANCES OPERATING WITH ANTITRUST IMMUNITY, DEP'T TRANSP. 1, https://cms.dot.gov/sites/dot.gov/files/docs/mission/office-policy/aviation-policy/9906/170104-all-immunized-alliances-05102017.pdf [https://perma.cc/8HP3-9FYC].

314. *See id.*

315. *See id.*

316. *See* EC/DOT REPORT, *supra* note 300, at 15.

317. *See* DEP'T OF TRANSP., DOCKET DOT-OST-2008-0252 15-20 (July 20, 2010), http://www.airlineinfo.com/ostpdf78/834.pdf [https://perma.cc/CX5R-AEHL].

318. Commission Regulation 139/2004 of Feb. 27, 2013, Merger Procedure: Case No. COMP/M.6663-RyanAir/Aer Lingus III, art. 8(3), O.J. (L 1106) 20, 36.

319. *See* Council Regulation 4064/89, art. 3.2, 1989 O.J. (L 395) 4 (EEC).

320. *See generally id.* (treating a joint venture between KLM and Alitalia that included almost all of their operations as a merger, and thus subject to the Merger Regulation).

321. *See* Consolidated Version of the Treaty on the Functioning of the European Union art. 101(1), May 9, 2008, 2008 O.J. (C 115) 88-89 [hereinafter TFEU].

which an assessment is made of the resulting efficiencies and whether those efficiencies are great enough to offset the reduction in competition.[322] This format is the one that would presumably be used in the evaluation of air carrier alliances, should a formal proceeding involving alliances proceed to conclusion. But, as we will see, proceedings involving alliances tend not to reach the point where the Commission makes formal conclusions of fact or law.

The Commission's powers over air transport have evolved unevenly, reaching apparent maturity only in 2004 in Regulation 411/2004.[323] Before 2004, the Commission's authority over international air transport was not broadly spelled out. In most of the areas in which the Commission enforces competition law, it acts under regulations authorizing it to investigate and impose penalties; respondents' rights to be heard are also guaranteed.[324] In 1962, however, the Council ruled that Regulation 17/62,[325] which gave this authorization for the Commission generally, did not apply to transport.[326] As a result, the Council began to issue a series of regulations providing the Commission with the needed authority over particular forms of transport. The Council acted on inland transport (rail, road, and inland waterways) in 1968,[327] maritime transport in 1986,[328] and air transport internal to the EU in 1986.[329] But only in 2004 was international air transport (between the EU and other nations) added.[330] The Commission reviewed international airline agreements for many years before it was given specific authority over the air

322. *See id.* art. 101(3).

323. *See* Council Regulation 411/2004, art. 1, 2004 O.J. (L 68) 1, 2 (EC) (repealing Council Regulation 3975/87, 1987 O.J. (L 374) 1 (EEC) and amending Council Regulation 3976/87, 1987 O.J. (L 374) 9 (EEC) and Council Regulation 1/2003, art. 32, 2002 O.J. (L 1) 1, 21 (EC) in connection with air transport between the Community and third countries).

324. *See* Council Regulation 17/62, art. 3, 19, 1962 O.J. (L 17) 87, 88, 92 (EC). This Regulation has been superseded by Council Regulation 1/2003. *See* Council Regulation 1/2003, 2003 O.J. (L 1) 1 (EC).

325. *See* Council Regulation 17/62, art. 3, 19.

326. *See* Council Regulation 141/62, art. 1, 1962 O.J. (L 2751) 291 (EC) (deciding that Council Regulation No. 17/62 did not apply to transport services). The Council was apparently concerned with the preservation of collective rate-setting, common control over supply, and market sharing agreements.

327. *See* Council Regulation 1017/68, art. 1, 1968 O.J. (L 175) 302, 304 (EC).

328. *See* Council Regulation 4056/86, art. 1, 1986 O.J. (L 378) 4, 5 (EEC).

329. *See* Council Regulation 3975/87, art. 1, 1987 O.J. (L 374) 1, 2 (EEC).

330. *See* Council Regulation 487/2009, art. 2, 2009 O.J. (L 148) 1, 2 (EC) (repealing Council Regulation 3976/87 and extending Commission jurisdiction to air transport both within the EU and beyond it).

transport sector.[331] The Commission had been reviewing and approving airline alliances conditioned on the release of slots by the alliance members since 1998 when it approved a 1996 alliance between American Airlines and British Airways.[332] In 2002, it approved a transatlantic alliance between Northwest Airlines and KLM[333] and an alliance among Lufthansa, SAS, and United Airlines.[334]

Changes in the EU's procedures for the enforcement of competition law have impacted the Commission's approach to airline alliances. As noted above, Article 101's first clause appears to cast a wide net, prohibiting all agreements and concerted practices that affect competition among the Member States.[335] Article 101's third clause, however, provides for exemptions from these prohibitions for agreements that enhance efficiency.[336] At least initially, the invocation of Article 101's third clause was understood to require specific action by the Commission. This form of regulation underlies Council Regulation No. 17/62,[337] which requires the Commission's approval for the validation of agreements.

The European authorities soon discovered that this ex ante method of administration overtaxed the Commission's resources. The result was Council Regulation No. 19/65, under which the Commission was authorized to issue so-called bloc exemptions for all agreements and concerted practices that fit defined categories.[338] Formally, the administration of competition law continued to adhere to an ex ante enforcement model (requiring advance Commission approval), although firms were allowed to self-apply the bloc exemptions. In 2003, however, the Council moved to an ex post model where Commission action takes place after the fact. Under Council Regulation No. 1/2003, agreements and concerted practices of

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331. *See generally id.*; Monique Negenman, *Commission Closes Investigation into Lufthansa/SAS/United Airlines and KLM/Northwest Alliances*, COMPETITION POL'Y NEWSLETTER (Competition Directorate-General of the European Commission, Brussels), Spring 2003.

332. *See* European Commission Press Release IP/98/641, European Commission, Commission Publishes its Conditions for Approving the British Airways/American Airlines Air Alliance, (Jul. 8, 1998) (announcing preliminary approval of the Alliance).

333. *See* Commission Notice Concerning the Alliance Between KLM Royal Dutch Airlines and Northwest Airlines, Inc., COM (2002) D-2/36.111 (July 30, 2002).

334. *See* Negenman, *supra* note 331, at 70.

335. *See* TFEU, *supra* note 321, art. 1041(1).

336. *See id.* art. 101(3).

337. *See* Council Regulation 17/62, 1962 J.O (L 17) 87.

338. *See* Council Regulation 19/65, 1965 J.O. (553) 36, 37. See generally *id.* for an application of Article 85 of the Treaty to certain categories of agreements and concerted practices.

business firms are deemed prima facie lawful and must be challenged by the Commission (which bears the burden of proof)[339] and ruled in violation of Article 101 before they are deemed unlawful. Regulation No. 1/2003 also authorizes the Commission to accept commitments of parties, making them legally binding and obviating the grounds for enforcement action.[340] In cases in which the Commission accepts commitments from the parties, Regulation No. 1/2003 contemplates that there is no need for the Commission to reach a conclusion as to whether there is, or has been, a violation.[341]

These enforcement changes become manifest for airlines in Council Regulation No. 487/2009, which authorizes the Commission to adopt regulations over air transport (including international air transport), involving, inter alia, joint planning and coordination of airline schedules and consultation on tariffs for the carriage of passengers and joint operations on "new less busy" scheduled air services.[342]

These regulations now inform the Commission's general approval of alliances in return for the airlines releasing slots at congested airports. The Commission appears to believe that the best way to foster competition in the airline industry lies in the removal of barriers to entry and that divesting slots from FSCs and making them available to LCCs is the most promising technique for achieving this goal. So far the Commission has been pursuing this goal through negotiation. Regulation 1/2003 fosters negotiation by reducing the confrontational relationship between the Commission and its negotiating partners in several ways. First, because Regulation 1/2003 has adopted an ex post model of enforcement, the parties are presumptively acting lawfully and can enter into agreements with the Commission without destroying that presumption. Second, the regulation allows the parties to make binding commitments without an admission or a finding of violation. Thus, the parties can commit to freeing up slots without admitting that their prior (or present) behavior was (or is) unlawful. And a Commission ruling condemning their behavior is unnecessary to make their commitments legally binding.

Regulation 487/2009 also shapes enforcement. It confers on the Commission the authority to bloc-exempt by category a range of agreements from the prohibitions of Article 101(1) because they are

339. *See* Commission Regulation 1/2003, art. 2, 2003 J.O. (L 1) 8. The burden of proof in Article 101(3) issues, however, is on the party asserting the efficiency defense.

340. *See id.* art. 9; *see also id.* pmbl. cl. 13.

341. *See id.* pmbl. cl. 13.

342. *See* Council Regulation 487/ 2009, art. 2, 2009 J.O. (L 148) 1, 2.

efficiency-enhancing and therefore justified under Article 101(3).[343] Whether it is necessary to issue bloc exemptions under the new ex post regime established by Council Regulation No. 1/2003 is a moot point because the Council has continued to authorize the Commission to issue bloc exemptions, and the Commission has complied.[344]

The kinds of agreements favored by Regulation 487 include joint planning and coordination of airline schedules;[345] consultation on fares for the carriage of passengers and baggage and of freight on scheduled air services; and joint operations on new "less busy" scheduled air services.[346] This structure implies that the Council sees these kinds of agreements—or versions of them—as at least potentially efficiency enhancing. Agreements involving joint planning and coordination of schedules and consultation on prices are part of current major airline alliances.

From the perspective of the issues connected with modern airline alliances, the Regulation's reference to agreements involving joint operations on new "less busy" scheduled air services is somewhat puzzling because current alliances involve joint operations on very busy scheduled air services. It is possible that the Council meant to disapprove these alliances, but that is unlikely because the Commission has already given its approval to several of them.[347] Rather, the Regulation is probably intended to require the Commission to examine joint operations on a case-by-case basis instead of regulating them categorically.

The Commission approved of an alliance among Air France (which had already merged with KLM), Alitalia, and Delta in 2015,[348] and it approved of an alliance involving Continental, United, Lufthansa, and Air Canada in 2013.[349] Earlier, the Commission

343. *See id.* For example, the Commission has long issued bloc exemptions applicable to vertical restrictions under Council Regulation 2790/1999. *See* Commission Regulation No. 2790/1999, 1999 O.J. (L 336) 21 (EC). And the Council renewed the Commission's power to exempt vertical restrictions in Council Regulation No. 330/2010 when Regulation 2790 was about to expire. *See* Commission Regulation No. 330/2010, 2010 O.J. (L 102) 1 (EU).

344. *See* Council Regulation No. 487/2009, 2009 O.J. (L 148) 1 (EC).

345. *See id.*

346. *See id.*

347. *See* Commission Notice Concerning the Alliance Between KLM Royal Dutch Airlines and Northwest Airlines, Inc., 2002 O.J. (C 181) 3.

348. *See* Summary of Commission Decision of 12 May 2015 Relating to a Proceeding Under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39964 — Air France/KLM/Alitalia/Delta), 2015 O.J. (C 212) 5.

349. *See* Summary of Commission Decision of 23 May 2013 Relating to a Proceeding Under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39595 — Continental/United/Lufthansa/Air Canada), 2013 O.J. (C 201) 6.

approved an alliance between Air France and Alitalia in 2004[350] and alliances between KLM and Northwest Airlines[351] and among Lufthansa, SAS, and United in 2002.[352] The Commission upheld an alliance between KLM and Alitalia under the Merger Regulation in 1999.[353]

Since 2004, the Commission has first tentatively found that the alliance it was reviewing impeded competition in violation of Article 101(1). It then reassessed that conclusion in the light of commitments made by the parties to divest slots at congested airports. In the light of these commitments, the Commission then concluded that a requisite degree of competition was being maintained without further formal remedies.[354] This is contemplated by Regulation 1/2003 in which the Commission obtains results that it desires without making a formal determination of a violation.[355] But when the Commission is acting under Regulation 487, its authority comes ultimately from Article 101(3) whose application is the subject of Regulation 487.[356] So, the Commission's approval of the alliance in question must be based on the efficiencies generated by the alliance. It is not entirely clear why the release of slots (which has to do with engendering future competition) constitutes an efficiency generated by the alliance and thus grounds for its approval. This largely theoretical difficulty stems

350. *See* Commission Decision of 7 April 2004 Relating to a Proceeding Pursuant to Article 81 of the EC Treaty Concerning Case COMP/A.38284/D2 — Société Air France/Alitalia Linee Aeree Italiane SpA, 2004 O.J. (L 362) 17.

351. *See* Commission Notice Concerning the Alliance Between KLM Royal Dutch Airlines and Northwest Airlines, Inc., *supra* note 347.

352. *See* Commission Notice Concerning the Alliance Between Lufthansa, SAS and United Airlines (Cases COMP/D-2/36.201, 36.076, 36.078 — procedure under Article 85 (ex 89) EC), 2002 O.J. (C 181) 2; Negenman, *supra* note 331.

353. *See* Non-opposition to a Notified Concentration (Case COMP/JV.19 — KLM/Alitalia, 2000 O.J. (C 96) 5 (indicating that the Commission did not oppose the concentration between Alitalia and KLM).

354. The Commission followed this scenario in approving Star Alliance in 2013 and in approving SkyTeam in 2015. In approving oneworld in 2010, the Commission also followed this scenario except that its approval took the form of simply closing its investigation. See Commission Decision of 12 May 2015 relating to proceedings under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39964 – Air France/KLM/Alitalia/Delta) (Sky Team); Commission Decision of 23 May 2013 relating to proceedings under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39595 – Air Canada/United Airlines, Inc./Deutsche Lufthansa AG)(Star Alliance); Joaquin Almunia Press Release, Jul. 14, 2010, British Airways, American Airlines and Iberia Transatlantic Alliance (announcing EU Commission's closing of its investigation of the transatlantic alliance involving British Airways, American Airlines and Iberia) (oneworld).

355. *See* Council Regulation No. 1/2003, 2003 O.J. (L 1) 3 (EC).

356. *See* Council Regulation No. 497/2009, 2009 O.J. (L148) 1 (EC).

from the bifurcated structure of Article 101 that formally requires separate determinations of competitive impact and newly generated efficiencies.

F. Comparing the Treatment of Alliances in the U.S. and the EU

As suggested above, the growth of strong LCC competition in both the U.S. and the EU has affected the competitive stance of the enforcement agencies in both jurisdictions. The largest air carriers in both the U.S and the EU are LCCs: Southwest Airlines and Ryanair.[357] The expansion of the LCCs in the U.S. domestic market has been dramatic, and they are currently exerting significant downward pressure on the pricing of legacy carriers.[358] Similar effects are generated by Ryanair and other LCCs on the pricing of FSCs in the EU. As we have argued elsewhere, the increased competitive pressure from the LCCs was probably a major factor influencing the DOJ to approve the recent mergers by the legacy carriers.[359] Now the LCCs are about to enter the transatlantic market. Some LCCs such as WOW! and Norwegian Air have entered, or are about to enter, that market, and Ryanair is exploring the possibility of entry.[360] The DOT and the European Commission undoubtedly see the entry of LCCs into the transatlantic market as likely to exert downward pressure on fares. This leads to their emphasis on slots to maximize the ease of entry into a set of markets, presumably including those across the Atlantic.

The DOT has granted antitrust immunity to the three major alliances.[361] In the case of oneworld, the DOT required the parties to divest some slots for the benefit of LCCs.[362] The European Commission has also granted approval to the three major alliances after extracting commitments from the alliances to divest slots for the benefit of LCCs in congested airports.[363] It appears therefore that the

357. *See* Burghouwt et al., *supra* note 2.

358. *See* Gifford & Kudrle, *supra* note 3, at 574.

359. *See id.* at 563.

360. *See* Pamela Newenham & Mary Minihan, *Ryanair's Board Approves Transatlantic Flights*, IRISH TIMES (Mar. 16, 2015), https://www.irishtimes.com/business/transport-and-tourism/ryanair-s-board-approves-transatlantic-flights-1.2141529 [https://perma.cc/G99T-UKFD].

361. *See* AIRLINE ALLIANCES OPERATING WITH ANTITRUST IMMUNITY, *supra* note 313, at 1.

362. *See* William Gillespie & Oliver M. Richard, *Antitrust Immunity and International Airlines Alliances* 18 (Econ. Analysis Grp., Discussion Paper 11-1, 2011).

363. *See* Commission Decision of 12 May 2015 relating to proceedings under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39964 – Air France/KLM/Alitalia/Delta); Commission Decision of 23 May 2013 relating to

European Commission, the DOT, and the DOJ all see the emergence of strong LCCs as a major path to fostering greater competition in the airline industry. Although the DOT's understanding of the competitive impact of airline cooperation is broader than that of the Commission (and of the DOJ) in the sense that the DOT can take into account competitive effects beyond a relevant antitrust market on which the Commission (and the DOJ) would focus, the Commission and the DOT both recognize the important role played by LCCs and the need to foster LCC competition by reducing the barriers to market entry that arise from slot scarcity. As a result, both agencies take a common approach toward slot divesture at congested airports and generally reach consistent results. This compatibility is reflected in their 2010 joint report on airline alliances.[364] And it is also compatible with the logic of DOJ's three major recent merger approvals.[365]

The growth of strong LCC competition in both the U.S. and the EU has affected the way that the enforcement agencies in both jurisdictions approach the evaluation of alliances and mergers in the airline industry. The actual and/or potential increase in LCC competition has reduced the anticompetitive effects likely to be generated by the joint operations taking place in each of the three major alliances. This growing LCC competition has enabled the agencies to more readily recognize enhancements of product quality, such as network expansions and increased flights as well the cost savings generated by the integrations.

The alliances appear to generate significant efficiencies of density, scale, and scope. They can also eliminate the double marginalization that would prevail without inter-airline cooperation.[366] Among the scholars evaluating the effects of alliances on interline passengers are Brueckner and Whalen[367] who, in their model, highlight welfare gains by passengers traveling beyond the partners' hubs that are likely to outweigh contrary effects on hub-to-hub travelers.[368] But this particular efficiency was recently challenged by Gillespie and

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proceedings under Article 101 of the Treaty on the Functioning of the European Union (Case AT.39595 – Air Canada/United Airlines, Inc./Deutsche Lufthansa AG); Joaquin Almunia Press Release, Jul. 14, 2010, British Airways, American Airlines and Iberia Transatlantic Alliance (announcing EU Commission's closing of its investigation of the transatlantic alliance involving British Airways, American Airlines and Iberia).

364. *See* EC/DOT REPORT, *supra* note 300, at 1.

365. *See* Gifford & Kudrle, *supra* note 3, at 572-75.

366. *See supra* note 59 and accompanying text.

367. Jan K. Brueckner & W. Tom Whalen, *The Price Effects of Airline Alliances*, 43 J.L. & ECON. 503, 539-42 (2000).

368. *See id.* at 539.

Richard, who claimed that airlines could apportion revenue between cooperating airlines through arms-length bargaining,[369] although this alternative would probably generate additional transactions costs. Gillespie and Richard are thus questioning whether the elimination of double marginalization is a "merger specific" efficiency under the merger guidelines.[370] Yet the elimination of double marginalization is widely recognized as an efficiency in vertical mergers involving distribution, where arms-length bargaining is also a theoretical alternative.[371] Both the DOJ and the European Commission so recognize it. Perhaps the merger guidelines are adverting to such issues when they state that "[t]he Agencies do not insist upon a less restrictive alternative that is merely theoretical."[372]

Whether joint-venture operation is necessary to prevent double marginalization, the alliances appear to generate the other efficiencies mentioned.[373] Carriers can serve more markets when they act cooperatively, filling a larger aircraft with passengers that otherwise would be divided among the separate airlines composing the alliance.[374] Hub-and-spoke organization, as is common in the airlines and other modes of transportation, helps reduce average trip costs,[375] and the more spokes serving the hub, the stronger are the likely economies of scope. Such efficiencies can offset increases in price that result from consolidation and cooperation, if the efficiencies are sufficiently large.[376] So, both the downward pressure on prices resulting from LCC competition and cognizable efficiencies from firm consolidation or cooperation appear critical to airline antitrust evaluation.[377]

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369. *See* Gillespie & Richard, *supra* note 59, at 458. They also claim that empirical evidence shows that antitrust immunity is unnecessary to deal with double marginalization. *See id.* at 457-65.

370. The merger guidelines of the DOJ and FTC require that efficiencies be "merger specific." *See* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 6, at 30 (requiring that efficiencies be "merger specific").

371. *See* Gillespie & Richard, *supra* note 59, at 458.

372. *See* U.S. DEPT OF JUSTICE & FED. TRADE COMM'N, *supra* note 6, at 30.

373. *See* Volodymyr Bilotkach & Kai Hüschelrath, *Airline Alliances and Antitrust Policy: The Role of Efficiencies*, 21 J. AIR TRANSP. MGMT. 76, 82 (2012) (providing a list of potential efficiencies connected with airline alliances).

374. *See* EC/DOT REPORT, *supra* note 302, at ¶ 99.

375. *See id.* at ¶ 8.

376. *See id.* at ¶¶ 99, 102.

377. *See id.* at ¶¶ 8, 99.

Bilokach and Hüschelrath recently suggested granting the U.S. antitrust immunity for only five years until the impact of the three huge alliances can be more fully understood.[378] This could be mandated by Congress, as suggested by the late Congressman James Oberstar of Minnesota (who favored three years).[379] If the profitability of the routes involved rises excessively with concomitant erosion of consumer surplus, immunity could be withdrawn on one or more of the alliances (or alliance components).[380] But it bears repeating that most of the major airlines involved in the alliances—particularly those based outside of the U.S.—have not yet shown financial health sustained for more than a few years.

IV. COMPETITORS FROM OUTSIDE THE ATLANTIC AREA

As recently as 1995, the U.S. and Europe accounted for 64% of global passenger traffic. That figure was 52.3% in 2016, and it is forecast to drop to 36% by 2036.[381] The major growth markets are in Asia and in China in particular.[382] What does this portend for international competition?

Air China is a member of the Star Alliance,[383] and China Eastern and China Southern are members of SkyTeam.[384] Nevertheless, experts have concluded that China has made a strategic decision to protect its home market and to nurture "national champions."[385] As familiar as that sounds as an element of industrial policy, it is hard to translate into tangible international competitive advantage in this

378. *See* Volodymyr Bilotkach & Kai Hüschelrath, *Antitrust Immunity for Airline Alliances*, 7 J. COMPETITION L. & ECON. 335, 379 (2011).

379. *See* 155 CONG. REC. E179, E190 (daily ed. Feb. 3, 2009) (statement of Rep. Oberstar).

380. The reader will recall that that the most serious antitrust issues raised by the alliances are the joint ventures, and no more than three members participate in any joint venture.

381. Press Release, IATA, 2036 Forecast Reveals Air Passengers Will Nearly Double to 7.8 Billion (Oct. 24, 2017), available at https://www.iata.org/pressroom/pr/Pages/2017-10-24-01.aspx https://perma.cc/AE9L-CJFB].

382. *See id.*

383. *See Star Alliance Member Airlines*, STAR ALLIANCE, https://www.staralliance.com/en/member-airlines [https://perma.cc/PV7X-3CA4] (last visited Oct. 22, 2018).

384. *See* SKYTEAM AIRLINE ALLIANCE, https://www.skyteam.com/en/ [https://perma.cc/3EHN-JM77] (last visited Oct. 22, 2018).

385. Jiaoe Wang et al., *Air Deregulation in China and Its Impact on Airline Competition 1994–2012*, 50 J. TRANSP. GEOGRAPHY 12, 12 (2016).

industry.[386] Airlines provide services that differ dramatically from most other products and services, particularly in an international context. They produce a service, much of which is produced and delivered abroad employing capital equipment which, for the foreseeable future, will be sourced for long-haul international operations from the duopoly of Boeing and Airbus.[387] International or local markets for fuel and facilities offer no differential advantage to the Chinese. Finally, direct labor costs for most carriers is only about 25%, and China's ability to exploit that advantage drops with each passing year. Chinese airlines can nonetheless provide powerful competition throughout Asia.[388]

Much has been written recently about the Gulf based airlines: Qatar, Emirates, and Etihad. Qatar joined oneworld in 2013, but Sir Tim Clark, chairman of Emirates has decried what he sees as the alliances' cartel-like behavior and particularly their ability to block routes for new members.[389] These Gulf carriers are well placed to link Asia to Europe, and their experienced European managers have recently put price pressure on the major U.S. and EU carriers by operating through major European hubs. This has led to accusations

386. This is not to deny that Chinese airlines can wreak havoc in East Asia with cut-rate fares now. But if those fares reflect actual costs, they will rise substantially with labor costs, and if they reflect subsidy, the participating airlines will almost certainly face political and legal challenges. *See* Angus Whitley & Kyunghee Park, *Flying for Less Via China Deals a Blow to Global Carriers*, BLOOMBERG L. (Dec. 12, 2016, 9:11 PM), https://www.bloomberg.com/news/articles/2016-12-12/china-s-flood-of-cheap-air-fares-deals-blow-to-global-carriers [https://perma.cc/4U9D-KCFW].

387. *See* Trefor Moss, *China Aircraft Exports Cleared for Takeoff Under FAA Deal*, WALL ST. J. (Nov. 7, 2017), https://www.wsj.com/articles/china-aircraft-exports-cleared-for-takeoff-under-faa-deal-1509947425 [https://perma.cc/BM32-EUMH]. China is rising fast; it has just had a medium airliner approved by the FAA, and, with sufficient government support, Chinese firms could produce competitive aircraft in every range. *See id.* Bombardier (Canada), Embraer (Brazil), and Mitsubishi (Japan) produce smaller regional jets that have only minor relevance to the markets considered here. *See* Steven Pearlstein, *Boeing and Airbus, the New 'Super Duopoly'*, WASH. POST (Apr. 25), https://www.washingtonpost.com/news/wonk/wp/2018/04/25/boeing-and-airbus-the-new-super-duopoly/?noredirect=on&utm_term=.77b925bb3380 [https://perma.cc/3MXA-39LP].

388. *See* Angus Whitley & Kyunghee Park, *Chinese Airlines are Flooding the World with Super-Cheap Fares*, BLOOMBERG (Dec. 12, 2016), https://www.bloomberg.com/news/articles/2016-12-12 [https://perma.cc/V4UQ-YXDD].

389. Poppy Morello, *Emirates President Talks Open Skies and Airline Subsidies*, ROUTES ONLINE (May 13, 2015), https://www.routesonline.com/news/29/breaking-news/248862/emirates-president-talks-open-skies-and-airline-subsidies/ [https://perma.cc/N5JC-JH6W].

of "capacity dumping" and government subsidies.[390] The accusations parallel the complaints of beleaguered domestic competitors in goods markets.[391]

It appears that much of the overall competitive advantage of the Gulf carriers lies with their new aircraft, their cultural congeniality with many present and future travelers, and the attraction of the hub airport locations that boast some of the greatest tourist attractions in the Muslim world nearby.[392] The Gulf carriers seem likely to put continuing downwards pressure on transatlantic fares.

390. *See* Jeffrey Dastin, *Changes to Gulf Open Skies Pacts Could Involve Price, Capacity Dumping Rules—Delta CEO*, REUTERS (Apr. 15, 2015), https://www.reuters.com/article/airlines-competition-goals/update-1-changes-to-gulf-open-skies-pacts-could-involve-price-capacity-dumping-rules-delta-ceo-idUSL2N0XC1K320150415 [https://perma.cc/9FCW-PPYC].

391. *See* THOMAS R. HOWELL & DEWEY BALLANTINE, INTERNATIONAL FRICTION AND COOPERATION IN HIGH-TECHNOLOGY DEVELOPMENT AND TRADE: PAPERS AND PROCEEDINGS 325 (Charles W. Wessner ed., 1997). "Dumping" in international trade is generally regarded by economists as a non-issue unless it involves an accusation of predatory pricing by the same standards that would apply to a domestic competitor, and nothing more substantial than the phrase itself seems to have emerged in airline competition. *See id.* at 371. The accusation of government subsidy also appears weak; there certainly has been some government support of various kinds, but it does not seem to have been critical. *See* Adam Levine-Weinberg, *Are the Gulf Airlines Competing Unfairly with U.S. Carriers?*, MOTLEY FOOL (Mar. 14, 2015), https://www.fool.com/investing/general/2015/03/14/are-the-gulf-airlines-competing-unfairly-with-us-c.aspx [https://perma.cc/6C2G-6V9F]. Tax free or advantaged airports support the success of the affected airlines, but historically airport subsidies have played a major role in the U.S. and the EU as well. *See* Bill McGee, *How Much Do Taxpayers Support Airlines?*, USA TODAY (Sept. 2, 2015), https://www.usatoday.com/story/travel/columnist/mcgee/2015/09/02/how-much-do-taxpayers-support-airlines/71568226/ [https://perma.cc/2P2M-FW7B]; Jim Tankersley, *WTO Rules Europe Illegally Subsidized Airlines, Handing Victory to Obama Administration Ahead of Trade Fight*, WASH. POST (Sept. 22, 2016), https://www.washingtonpost.com/news/wonk/wp/2016/09/22/wto-rules-europe-illegally-subsidized-airlines-handing-victory-to-obama-administration-ahead-of-trade-fight/?utm_term=.8320640065c1 [https://perma.cc/RPF8-4N45]. The argument that some home market labor costs are lower than in the U.S. or the EU is no more persuasive in this industry than in any other.

392. *See generally* de Wit, *supra* note 265 (discussing the Gulf carriers' impact on European airlines and airports that accept their competitive advantages).

CONCLUSION

The current transatlantic airline competition regime and, by extension, the global regime presents a unique combination of special government regulations and familiar competition policy challenges. The central reality underlying the need for rough congruence in policy lies in the extraterritoriality of antitrust jurisdiction.[393] This means that if any business practice on either side of the Atlantic has a substantial effect on competitive conditions on the other side, authorities on either side may intervene and either veto the practice or reach some other accommodation.[394] But based on the previous discussion, the policy differences affecting airline operation are not very substantial and are unlikely to generate substantial conflict. Both the U.S. and the EU, in very different institutional contexts, seem similarly attentive to the major barriers to effective competition in airlines.

One obvious path towards a more competitive Atlantic market would be to allow for cabotage on both sides from airlines registered in the U.S. and the EU. The current protectionist mood in the U.S. and in many EU countries probably makes that a non-starter, at least for the near future. A less extreme shift would be the relaxation of foreign ownership restrictions, but it has yet to be demonstrated that competition problems on either side of the Atlantic stem from inadequate capital.[395] Instead, most investors are likely wary of an industry with such a history of red ink.

Considering the near future of competitive performance of airlines in both the U.S. and the EU, our most optimistic scenario—and not one we think unlikely—is that a relatively stable set of low-cost carriers will emerge in transatlantic air service that will greatly influence the behavior of the full-service carriers. This has already been observed within both the U.S. and EU markets separately, and nothing now appears likely to block its development internationally. This group seems likely to include Ryanair and EasyJet—firms with a solid record of success in disciplining FSCs—and perhaps also

393. *See* GIFFORD & KUDRLE, *supra* note 4, at 54-55.

394. *See generally id.* The two most well-known cases of competition policy conflict vividly illustrate this veto power. *See id.* at 54-55. In 1997 the Commission approved the merger of two entirely U.S. firms, Boeing and McDonnell-Douglas, only when some exclusive supply contracts were abandoned. *See id.* at 54. In 2001, the Commission blocked the merger of two U.S. firms, General Electric and Honeywell, seemingly out of fear that the combined firm would be too formidable a competitor. *See id.* at 55.

395. *See* A NEW REGULATORY MODEL FOR FOREIGN INVESTMENT IN AIRLINES, WORLD ECON. F. 4 (Jan. 29, 2016), http://www3.weforum.org/docs/IP/2016/MO/WEF_AT_NewRegulatoryModel.pdf [https://perma.cc/29WK-EL24].

Southwest, which is experimenting with international service (although so far only to Mexico and the Caribbean). Moreover, success with disciplining the FSCs on Atlantic routes could be the precursor to a playing similar role on other international routes.[396]

396. *See* Miquel Ros, *Low-cost Airlines: They Changed the World—but What Next?*, CNN (Apr. 29, 2016), https://www.cnn.com/travel/article/budget-airline-trends-2016/index.html [https://perma.cc/PG7V-DZ44]. A consideration of markets outside of the Atlantic area lies beyond the scope of this paper. Many of the markets are of relatively low per capita income, and the lion's share of air travel is often provided by low-cost carriers. *See* Oliver Smith, *The World's 10 Fastest-growing Airlines are Dominated by Low-cost Carriers*, TRAVELLER (Sept. 7, 2017), http://www.traveller.com.au/the-worlds-10-fastestgrowing-airlines-are-dominated-by-lowcost-carriers-h1521d [https://perma.cc/FCJ7-V8QT]. The narrow national experience of these carriers suggests, however, that they are poorly placed to become international competitors serving high-income passengers.