

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

Michael C. Malaney, et al.,

Plaintiffs,

vs.

UAL CORPORATION, UNITED AIR  
LINES, INC., and CONTINENTAL  
AIRLINES, INC.,

Defendants.

CASE NO. 3:10-CV-02858-RS

**TESTIMONY OF DANIEL RUBINFELD**



UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

Michael C. Malaney, et al.,

Plaintiffs,

CASE NO. 3:10-CV-02858-RS

vs.

UAL CORPORATION, UNITED AIR  
LINES, INC., and CONTINENTAL  
AIRLINES, INC.,

Defendants.

**Expert Report of Daniel Rubinfeld**

**CONFIDENTIAL**

<b>I.</b>	<b>QUALIFICATIONS .....</b>	<b>4</b>
<b>II.</b>	<b>ASSIGNMENT AND SUMMARY OF OPINION.....</b>	<b>5</b>
<b>III.</b>	<b>INDUSTRY BACKGROUND .....</b>	<b>7</b>
<b>IV.</b>	<b>BENEFITS FROM THE MERGER ARE SUBSTANTIAL .....</b>	<b>10</b>
	<b>A. REDUCTIONS IN COSTS WILL TEND TO REDUCE NOMINAL FARES .....</b>	<b>11</b>
	1. <i>The elimination of double marginalization will reduce nominal fares and create incentives to increase capacity and output .....</i>	<i>11</i>
	2. <i>The merger will reduce other costs by at least \$165-338 million annually.....</i>	<i>13</i>
	<b>B. THE MERGER WILL IMPROVE THE QUALITY OF AIRLINE SERVICE .....</b>	<b>14</b>
	3. <i>The combination of complementary networks will improve the quality of the network and therefore the value to consumers of airline service on the combined carrier.....</i>	<i>15</i>
	4. <i>The merger will increase capacity and frequencies both domestically and internationally.....</i>	<i>18</i>
	5. <i>The carriers’ internal planning models predict that the combined carrier will serve more passengers than would the two carriers on a stand-alone basis...21</i>	
	6. <i>Consumer benefits resulting from network and service quality improvements suggest that domestic consumer welfare (in the aggregate) will increase by at least \$442 million annually.....</i>	<i>23</i>
<b>V.</b>	<b>THE MERGER RAISES NO SERIOUS COMPETITIVE ISSUES FOR EITHER THE PLAINTIFFS OR THE GENERAL FLYING PUBLIC.....</b>	<b>28</b>
	<b>A. THE AIRLINE INDUSTRY HAS BECOME INCREASINGLY COMPETITIVE OVER TIME ...</b>	<b>28</b>
	<b>B. THE VOLATILITY AND HETEROGENEITY OF AIRLINE ROUTE STRUCTURES, FLIGHT OFFERINGS, COSTS, AND FARES HINDER FARE COORDINATION.....</b>	<b>29</b>
	<b>C. THERE IS NO POTENTIAL HARM TO PASSENGERS ON INTERNATIONAL ROUTES .....</b>	<b>32</b>
	<b>D. HARM ON DOMESTIC ROUTES IS HIGHLY UNLIKELY .....</b>	<b>35</b>
	1. <i>National “market” .....</i>	<i>35</i>
	2. <i>Airport markets .....</i>	<i>36</i>
	3. <i>Plaintiffs’ home airports are largely unaffected by the merger .....</i>	<i>39</i>
	4. <i>Airport-pair markets .....</i>	<i>39</i>
	5. <i>City-pair markets .....</i>	<i>40</i>
	6. <i>Plaintiffs’ city-pair routes are largely unaffected by the merger .....</i>	<i>42</i>

<b>VI. THE PLAINTIFFS' ANALYSIS OF THE INDUSTRY AND THE MERGER IS WRONG IN MANY CASES AND MISLEADING IN OTHERS.....</b>	<b>43</b>
<b>APPENDIX A: CURRICULUM VITAE OF DANIEL RUBINFELD .....</b>	<b>46</b>
<b>APPENDIX B: TESTIMONY OF DANIEL RUBINFELD AT DEPOSITION OR TRIAL.....</b>	<b>61</b>
<b>APPENDIX C: MATERIALS CONSIDERED.....</b>	<b>67</b>
<b>APPENDIX D: TECHNICAL APPENDIX.....</b>	<b>73</b>
<b>D.1. ESTIMATING CONSUMER BENEFITS USING THE PREDICTIONS FROM QSI MODELS .....</b>	<b>73</b>
<b>D.2. ESTIMATING CONSUMER BENEFITS USING ESTIMATES OF CONSUMER DEMAND.....</b>	<b>75</b>

## I. QUALIFICATIONS

1. I am the Robert L. Bridges Professor of Law and Professor of Economics at the University of California, Berkeley. I served as Deputy Assistant Attorney General at the Antitrust Division of the U.S. Department of Justice from June 1997 through December 1998. In that position I was responsible for supervising a staff of approximately 70 Ph.D. economists, financial analysts, and research assistants with respect to a wide range of civil matters. My responsibilities at the Antitrust Division included economic issues related to antitrust; my responsibilities covered merger and non-merger activity, including airlines.<sup>1</sup>

2. I received my A.B. degree in mathematics from Princeton in 1967 and my Ph.D. in economics from M.I.T. in 1972. I have previously taught at the University of Michigan and have been a visiting professor at the law schools of Stanford University, the University of Geneva, the University of Virginia, the University of Hamburg, the University of Bergen, Catholica University of Lisbon, and most frequently, N.Y.U. I am the author of two textbooks, *Microeconomics*, and *Econometric Models and Economic Forecasts* (both with Robert Pindyck). I have received fellowships from the National Bureau of Economic Research, the John M. Guggenheim Foundation, and the Center for Advanced Studies in the Behavioral Sciences, and I am a member of the American Academy of Arts and Sciences. I have served as Associate Dean of the School of Law (as Chair of the U.C. Berkeley Program in Jurisprudence and Social Policy) and as Chair of the law school's Program in Law and Economics. In the summer of 2003, at the behest of the Chairman of the Federal Trade Commission, I gave a short course on antitrust economics to attorneys at the Federal Trade Commission. I have also served as President of the American Law and Economics Association, and I have received an honorary doctorate from the University of Basel, Switzerland.

3. My research interests span a broad range of subject matters, including industrial organization and competition policy, the economics of legal rules and institutions, law and statistics, and public economics. I have published or edited seven books and over 100 articles. I have consulted and testified extensively in cases involving antitrust, competition policy,

---

<sup>1</sup> The Antitrust Division of the Department of Justice has responsibility for evaluating the competitive aspects of mergers under Section 7 of the Clayton Act.

intellectual property, public regulation, and damages, for private parties, and for the U.S. Department of Justice, the Federal Trade Commission, the U.S. Treasury, and a number of State Attorneys General.

4. My teaching interests include antitrust, the economics of legal rules and institutions, economics and public policy, and law and statistics. I have served on numerous occasions as a lecturer for the Federal Judicial Center concerning the use of statistical methods by the courts. My most recent 3-day course was completed on August 6 of this year. I have given lectures to a number of antitrust authorities throughout the world.

5. A copy of my curriculum vitae is attached as Appendix A. I have been qualified as an economic expert in Federal Court on numerous occasions. A list of my testimony over the previous four years, by deposition or before courts, is attached as Appendix B. I am compensated for my work in this matter at my standard rate of \$1,025 per hour.

## **II. ASSIGNMENT AND SUMMARY OF OPINION**

6. I have been asked by counsel for United Air Lines Inc. and UAL Corporation (United), and Continental Airlines, Inc. (Continental), to evaluate the potential competitive effects and efficiencies from the proposed merger of the two airlines. I also have been asked to review and analyze the allegations in the Plaintiffs' Complaint.<sup>2</sup>

7. In the course of completing this assignment, I have reviewed information of the following types:

- The Plaintiffs' complaint;
- News articles and press releases on the airline industry;
- Documents produced in discovery by Plaintiffs;
- Documents prepared by United and Continental in the course of planning for this potential merger;
- Data on airline traffic from the Bureau of Transportation Statistics, processed versions of these data from Database Products Inc., scheduling data from the Official Airline Guide (OAG), and related data;

---

<sup>2</sup> Michael C. Malaney, *et al.* v. UAL Corporation, United Air Lines, Inc., and Continental Airlines, Inc., CV-10-2858, June 29, 2010 (hereinafter "Complaint").

- Data on tickets sold, itinerary characteristics, traffic projections, and related matters from United and Continental.
8. A list of all of the data and documents I have considered in the preparation of this Report is provided in Appendix C.
9. My opinions in this matter are summarized as follows.
- The U.S. airline industry has undergone significant change during the era of deregulation. There has been some consolidation and a number of exits of airlines. However, the predominant impact has been the result of the entry of a number of low-cost carriers (“LCCs”) over the last ten to fifteen years and the continued expansion of Southwest Airlines. The resulting increased competition has led to a substantial decline in inflation-adjusted airline fares. The experience of the airline industry following deregulation, particularly the growth of LCCs, demonstrates that there is vigorous competition in the industry.
  - The merger of United and Continental – two airlines with complementary domestic and international routes – will generate substantial benefits to the traveling public. These benefits include improved online connection options and schedules, and improvements in airline efficiency (in particular, through fleet optimization).
  - Reductions in costs and the elimination of double markups will create downward pressure on airfares.
  - The merged entity will carry more domestic passengers than the two carriers on a stand-alone basis, and it will serve more domestic routes (including merger-enabled routes).
  - The merger (which has no non-stop international overlaps) will also benefit international travelers, who will have more options in traveling to many international destinations without changing airlines.
  - The merger raises no serious competitive issues for either the Plaintiffs or the flying public. Even under assumptions most favorable to finding anticompetitive effects, those effects would be overwhelmed by the benefits flowing from the merger.
  - The merger will not affect the unlikely possibility of fare collusion. Furthermore, if the market were to be viewed on a national market basis by the Department of Justice, the market would be unconcentrated and would normally not warrant further investigation.
  - The Plaintiffs’ analysis of the industry and the merger, as spelled out in the Complaint, is wrong in many cases and misleading in others.
10. I explain below the bases of my opinions. First, I describe the nature and trends of competition in the industry in Section III. Section IV documents the substantial benefits that are likely to flow from the merger. In Section V, I explain that the merger presents no serious competitive issues for the individual plaintiffs or for the general flying public. Section VI

responds explicitly to some of the allegations in Plaintiffs' complaint. I explain that many of the stated claims are factually wrong in some cases and misleading in others.

11. My work in this matter is ongoing and I may revise my opinions as more information becomes available to me.

### III. INDUSTRY BACKGROUND

12. The airline industry has proved to be highly dynamic and competitive since it was deregulated in the late 1970s. Many airlines have entered the industry, and many new and legacy airlines have failed as the result of competition and changes in the industry.<sup>3</sup> As I describe below, the "big story" of the airline industry since deregulation has been the reduction in average fares. One reason for the reduction in fares has been the dramatic growth of low-cost carriers. LCCs are carriers with lower costs than most legacy carriers and that compete by offering the most attractive fares. Although some LCCs have begun to develop hubbing networks (*e.g.*, AirTran at Atlanta and Frontier at Denver), LCCs largely fly point-to-point on high density routes, relying primarily on a single-fleet model. Most domestic U.S. passengers now fly on routes where an LCC offers service. These passengers receive the benefits of LCC competition whether they travel on an LCC or another airline.

13. The overall performance of the airline industry since deregulation has been good. It is notable that capacity and output have expanded significantly. Exhibit 1 shows the number of domestic available seat miles ("ASMs") offered by the industry.<sup>4</sup> After deregulation, the number of ASMs grew from approximately 259 billion to over 756 billion in 2007, declining to under 685 billion in the last two years due to poor economic conditions. Exhibit 2 shows the number of domestic revenue passenger miles ("RPMs") flown by all U.S. carriers.<sup>5</sup> RPMs have grown

---

<sup>3</sup> Legacy carriers are usually taken to be airlines that "predate airline deregulation of 1978 and ... have adopted a hub-and-spoke network model that can be more expensive to operate than a simple point-to-point service model." (General Accounting Office (2004), "Legacy Airlines Must Further Reduce Costs to Restore Profitability," GAO-04-836, n. 1).

<sup>4</sup> Available seat miles are a measure of capacity. One ASM represents one seat on an aircraft flown a distance of one mile. If a carrier flies a 100-seat aircraft 250 miles, then the associated ASMs are 25,000.

<sup>5</sup> A revenue passenger mile is one mile flown by one paying passenger. If a carrier flies 50 passengers on a 250 mile route, then the associated RPMs are 12,500.

from 161 billion in 1978 to 602 billion in 2007, falling to under 552 billion in 2009. In short, since deregulation more passengers have flown to more places more cheaply.

14. Airlines have invested heavily in new equipment to expand service and meet passengers' demands for higher-quality service. These investments have led to new types of equipment entering service; such equipment includes regional jets, *i.e.*, jet aircraft with fewer than 100 seats. Because of their low per-passenger operating costs, regional jets are able to efficiently provide service from small communities to airlines' hubs and have permitted airlines to expand the number of cities with airline service.<sup>6</sup> On these additional "spokes," regional jets carry both "local" non-stop passengers between small cities and hubs as well as "flow" passengers, *i.e.*, passengers who fly from an origin point, connecting through a hub, to reach their final destination.

15. Regional jets have significantly expanded connecting and non-stop options for passengers originating at smaller airports. Regional jets are usually operated by commuter airlines that are under contract to provide service to legacy carriers. Because they operate on routes typically intended to bring connecting passengers to a legacy carrier's hub, these commuter airlines generally do not compete directly with legacy carriers, but instead operate services that are complementary to those operated by the legacy carriers.

16. As output and the number of non-stop and connecting routes have increased, airline fares have fallen. Exhibit 3 shows the average quarterly inflation-adjusted fare per mile, or "yield," for domestic air travel since 1990. Over the last 20 years, yields for both legacy carriers and LCCs have fallen, but legacy carriers' yields have fallen much more rapidly than yields of LCC carriers. This is due to the competitive response of legacy carriers to the entry and expansion of LCCs. The downward trend in inflation-adjusted fares is also the result of the growing efficiency of the airlines, which has been shared with the traveling public.

17. The growth of LCCs has been one of the major drivers of competition in the airline industry. Exhibit 4 shows how LCCs have increased their shares of domestic passengers over the last decade, partly at the expense of legacy carriers. As the direct result of the growth of LCC carriers, many legacy carrier passengers now have the option of choosing an LCC. Exhibit

---

<sup>6</sup> See, *e.g.*, Severin Borenstein and Nancy L. Rose (2008), "How Airline Markets Work...or Do They?: Regulatory Reform in the Airline Industry," mimeo, October, 2008, p. 26.

5 shows the degree of exposure of legacy carriers to LCC competition. Here I define a passenger as being exposed if he or she travels on a route where an LCC has at least ten percent of passengers.<sup>7</sup> The top panel of the exhibit shows the number of legacy carrier passengers and revenue exposed to LCC competition. The lower panel of the figure shows the percentage of legacy carrier passengers and revenue exposed to LCC competition. With the exception of Alaska Airlines, all of the legacy carriers have at least 50 percent of their revenue exposed to LCC competition. And, as shown in Exhibit 6, the share of passengers who have access to LCCs has increased tremendously over the past ten years, with the share of passengers traveling on routes where LCCs compete increasing from about 46 percent at the beginning of 2000 to about 70 percent at the end of 2009.

18. LCCs often have entered city-pair markets by providing service from alternative airports rather than from the primary airport in a city. For example, Southwest Airlines entered Chicago at Midway rather than O'Hare, and at Houston-Hobby rather than Houston Intercontinental. Increasingly, however, as the LCCs have grown they have successfully entered legacy carriers' hub airports directly. In fact, most airline hubs currently have LCCs operating out of them on multiple non-stop routes. For example, Frontier operates to 50 non-stop domestic destinations from Denver, a major United hub, and AirTran operates to 51 non-stop domestic destinations from Atlanta, Delta's major hub.<sup>8</sup> Southwest operates out of Phoenix (US Airways hub, 46 non-stop domestic destinations), Denver (United hub, 42 non-stop domestic destinations), Philadelphia (US Airways hub, 18 non-stop domestic destinations), Salt Lake City (Delta hub, 13 non-stop domestic destinations), and San Francisco (United hub, 7 non-stop domestic destinations). In addition, Southwest has entered Pittsburgh, which US Airways operated as a hub in the past.

19. The process of competition in the airline industry has resulted in the steady growth of LCCs at the relative expense of legacy carriers. The competitive process is fierce. Airline routes are characterized by frequent entry and exit. Exhibit 7 shows the number of entry events for the top 1,000 city pairs between 2000 and 2009. Over 83 percent experienced at least one entry

---

<sup>7</sup> Ten percent is a conservative cutoff; a lower percentage cutoff would account for additional competitive pressures.

<sup>8</sup> Statistics on non-stop spoke routes operated from each hub were calculated from OAG schedule data for October 2010.

event between 2000 and 2009, nearly 65 percent experienced two or more entry events, and over 40 percent experienced three or more entry events. In a competitive industry sometimes entrants survive and sometimes they do not. When entrants do survive, they may drive out incumbents.

20. The process of competition in the airline industry has led to a large number of entries, exits, and bankruptcies over the years. Exhibit 8 illustrates the turnover of firms in the industry through entry and exit (including bankruptcy). The dramatic turnover of firms demonstrates the vigorous competition in the airline industry. Few firms have been able to sustain profitability over a long period of time. As with entry on city pairs, the substantial entry and exit in the industry is evidence of vigorous competition and relatively low barriers to entry.

#### **IV. BENEFITS FROM THE MERGER ARE SUBSTANTIAL**

21. The merger of United and Continental will bring together two largely complementary networks. As described in more detail below, the merger is expected to result in increased capacity and improvements to the quality of the service offered by United and Continental. As is well-recognized by economists and the federal antitrust agencies, these potential merger effects benefit consumers.<sup>9</sup> Plaintiffs have ignored these efficiencies in their characterization of likely post-merger changes in the industry.

22. The transaction will result in a variety of overall network benefits that will greatly improve passenger choice, including a large number of online connecting itineraries, merger-enabled routes, stabilized and enhanced service to small communities, and increased competition on a variety of routes around the country.

23. The transaction will result in two additional types of efficiencies. First, the merger will result in cost reductions that can be expected to be passed through, at least in part, to passengers in the form of lower fares. Second, the merger will improve the quality of service available to

---

<sup>9</sup> The draft Horizontal Merger Guidelines released earlier this year by the Department of Justice (DOJ) and Federal Trade Commission (FTC) are explicit about the potential benefits of mergers:

[A] primary benefit of mergers to the economy is their potential to generate significant efficiencies and thus enhance the merged firm's ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products.

("Horizontal Merger Guidelines, For Public Comment: Released On April 20, 2010," available at [www.ftc.gov/os/2010/04/100420hmg.pdf](http://www.ftc.gov/os/2010/04/100420hmg.pdf), site visited August 17, 2010, (hereinafter "Draft Horizontal Merger Guidelines").)

passengers at existing fares. Because the service of the merged carrier will be more appealing to consumers, competing carriers will have an incentive to respond with service improvements of their own to avoid losing passengers to the new United. These improvements can be expected to generate additional “dynamic efficiencies” that are not fully captured in my analysis.<sup>10</sup> I will discuss each of these efficiencies in turn.

**A. REDUCTIONS IN COSTS WILL TEND TO REDUCE NOMINAL FARES**

*1. The elimination of double marginalization will reduce nominal fares and create incentives to increase capacity and output*

24. It is well-established in the economics literature that fare savings are realized from more integrated airline service through the elimination of “double marginalization.”<sup>11</sup> The double marginalization problem occurs because, absent an ability to cooperate on prices, carriers maximize profits on their segment(s) of an interline itinerary (*i.e.*, an itinerary in which segments are operated by two or more distinct carriers), taking as given the fare charged by the other carrier(s) on the itinerary. Each carrier fails to take into account the effect that its pricing decision will have on the profits of the carrier on the other segment. When the carrier on the first segment sets a high price, it reduces demand on the entire route. As a result, the carrier on the second segment carries fewer passengers, and makes less profit than it otherwise would. Each carrier behaves in the same fashion, setting prices that are too high to maximize joint profit. Thus, separate upstream and downstream pricing generally leads to higher combined prices and lower output than would be set if the carriers were to jointly set prices (*e.g.*, through a merger) to maximize overall profits on the route. For example, assume that in order for a passenger to fly to a chosen destination, he or she must fly one carrier on one segment and then switch planes to a second carrier that will take him or her to the destination. In this example, each carrier will price with an independent margin built in; hence, double margins.

25. Mergers enable carriers with complementary networks, *i.e.*, networks on which passengers can fly on connecting segments, to eliminate these double margins. The literature

<sup>10</sup> For a discussion of dynamic efficiencies and the pitfalls of static merger analysis, see Steven C. Salop, “Efficiencies in Dynamic Merger Analysis,” Federal Trade Commission Hearings on Global and Innovation-Based Competition, November 2, 1995, available at <http://www.ftc.gov/opp/global/saloptst.shtm>, site visited August 17, 2010.

<sup>11</sup> See, *e.g.*, Harumi Ito and Darin Lee (2007), “Domestic Code Sharing, Alliances, and Airfares in the U.S. Airline Industry,” *Journal of Law and Economics*, 50(2): 355-380.

indicates that the fare effects from the elimination of double marginalization can be substantial. For example, Ito and Lee (2007) estimate that, on domestic routes, online (e.g, single carrier) itinerary tickets are approximately 6.0 percent less expensive than “traditional” codeshare tickets (*i.e.*, those combining the networks of two carriers which have entered into a formal codeshare arrangement) and 10.4 percent less expensive than interline tickets between alliance partners (*i.e.*, tickets involving two or more separate carriers).<sup>12</sup> To summarize, the merger of United and Continental will eliminate double mark-ups because the combined carrier will internalize the profits on each segment and therefore price the entire itinerary optimally.<sup>13</sup>

26. A merger’s necessary alignment of incentives can have additional beneficial effects on consumers. The merged carrier has an incentive to expand capacity on routes that serve important roles in carrying connecting traffic over the combined network (including “conduit” routes between the carriers’ hubs). This can be expected because the combined carrier internalizes all of the benefits from carrying additional passengers on all segments. I confirm below that the parties’ internal models expect expanded capacity post-merger on these routes.

27. It is not surprising that the parties’ planning models predict increases in capacity on conduit routes. The Continental and United networks are highly complementary. Domestically, Continental operates hub airports in Houston, Cleveland, and Newark/New York and offers an extensive network on the East Coast and in the Midwest. United operates hubs at Los Angeles, San Francisco, Denver, Chicago, and Washington, DC. United operates a large network in the West as well as transcontinental service. The overlaps between the two networks are minimal. The degree of complementarity between the two networks suggests that the elimination of double marginalization can result in substantial efficiencies.

28. Thus, the merger can be expected to create incentives to lower nominal fares and to expand capacity.

---

<sup>12</sup> Ito and Lee (2007), p. 378.

<sup>13</sup> Elimination of double marginalization is analogous to reductions in the marginal costs of itineraries and thus creates downward pressure on airfares.

2. *The merger will reduce other costs by at least \$165-338 million annually*

29. Integration planning teams at United and Continental have separately identified approximately \$165-338 million in ongoing annual cost savings.<sup>14</sup> Exhibit 9 provides a breakdown of the sources of estimated cost savings. Continental estimates cost savings in six areas: corporate overhead, spoke stations, technology, marketing, reservations/sales, and maintenance. Offset against this, Continental also estimates labor and other “dis-synergies” reflecting higher labor costs post-merger.<sup>15</sup> Similarly, United estimates cost savings in five areas: management and overhead, procurement, station overlap, integrated IT, and non-airport facilities. United also offsets its cost savings estimates with estimates of labor “dis-synergies.”<sup>16</sup> I understand that these initial estimates are preliminary and the parties continue to seek to identify and quantify additional cost savings.<sup>17</sup>

30. The cost savings estimated by the parties in this case are cognizable for purposes of assessing the competitive effects of this merger.<sup>18</sup> First, the cost savings estimated by the parties are merger-specific. The factors considered by the parties – elimination of duplication, procurement and technology – could not be achieved outside of a merger.<sup>19</sup> Second, the parties have verified the anticipated cost savings using ordinary-course-of-business methods and the estimated cost savings were presented to the Boards of Directors when considering whether to

---

<sup>14</sup> See, Continental Airlines, Inc., “Board of Directors Meeting,” April 28, 2010, 4(c)(35), p. 25; UAL Corporation, “Board of Directors Meeting,” April 30, 2010, UALCORP01379-1516 at UALCORP01415.

<sup>15</sup> Continental Airlines, Inc., “Board of Directors Meeting,” April 28, 2010, 4(c)(35), p. 24.

<sup>16</sup> UAL Corporation, “Board of Directors Meeting,” April 30, 2010, UALCORP01379-1516 at UALCORP01415.

<sup>17</sup> Interview with Paul Joklik, Senior Manager, Financial Analysis and Corporate Development, United Air Lines, August 16, 2010.

<sup>18</sup> The *Draft Horizontal Merger Guidelines* note, “[c]ognizable efficiencies are merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or service.” (*Draft Horizontal Merger Guidelines*, p. 29.)

<sup>19</sup> I understand that the cost synergies identified by the parties are incremental to those that could be achieved on a stand-alone basis or via a codeshare agreement. (Interview with Paul Joklik, Senior Manager, Financial Analysis and Corporate Development, United Air Lines, August 16, 2010.)

undertake this transaction.<sup>20</sup> Finally, the cost savings are not based on degradation in the quantity or quality of service.<sup>21</sup>

31. The cost savings anticipated by the parties will benefit consumers regardless of whether the savings involve reductions in fixed or variable costs. For example, the Antitrust Modernization Commission has stated that: “[t]he agencies should account for the value of fixed-cost efficiencies in assessing the likely competitive effects of a merger. As one commenter explained, ‘[s]ince all costs vary in the long run, reductions in capital expenses or other costs fixed in the short run should also be considered.’ Failure to take account of and give proper weight to such fixed costs in evaluating a merger could deprive consumers and the U.S. economy of significant benefits from a procompetitive merger.”<sup>22</sup> This may be particularly true in the airline industry, which is characterized by high fixed costs, but low per-passenger marginal costs.

#### **B. THE MERGER WILL IMPROVE THE QUALITY OF AIRLINE SERVICE**

32. Plaintiffs allege that the merger will result in reduced capacity, which “will result in higher ticket fares for consumers.”<sup>23</sup> This claim is inconsistent with the parties’ own internal planning models, which were developed using ordinary-course-of-business methods. These models demonstrate that the merger will expand capacity and output to the benefit of consumers. This expansion in output reflects the pro-competitive benefits of the merger. As discussed further below, quantification of the consumer benefits arising from the transaction suggest that they will exceed \$400 million annually on domestic routes with additional benefits on international routes. In the language of economics, the improvement in quality at existing fare levels is appropriately described as a reduction in “quality-adjusted” fares. Put another way, if we assume no increase in existing fares, and also assume improvement in quality through expanded capacity and output, then that is the economic equivalent of a reduction in “quality-adjusted” fares.

---

<sup>20</sup> See Continental Airlines, Inc., “Board of Directors Meeting,” April 28, 2010, 4(c)(35), p. 25, UAL Corporation, “Board of Directors Meeting,” April 30, 2010, UALCORP01379-1516 at UALCORP01415.

<sup>21</sup> As discussed below, the parties’ models predict that both the quality of service and quantity of output will increase post-merger.

<sup>22</sup> Antitrust Modernization Commission, Report and Recommendations, April 2007, pp. 58-60.

<sup>23</sup> *Complaint*, ¶¶ 63-64.

3. *The combination of complementary networks will improve the quality of the network and therefore the value to consumers of airline service on the combined carrier*

33. By combining two separate flight schedules, the merger allows United and Continental to optimize service across the two carriers' schedules and reschedule their combined fleets to optimize the distribution of aircraft across routes.<sup>24</sup> This will permit more direct traffic on certain routes, more efficient routings to reduce the number of connections or elapsed time on some itineraries, and more efficient usage of larger aircraft.

34. The merger improves the quality of service in several ways. First, on routes where both United and Continental currently offer service, the merger will create more itinerary options on the merged carrier. To see this, consider the route from Denver, CO (DEN) to Houston, TX (IAH). On a stand-alone basis, Continental currently offers six daily frequencies in each direction. Similarly, United currently offers five daily frequencies. Thus, consumers who wish to fly Continental can choose among 36 round-trip itineraries, each of which combines one of the six outgoing Continental flights with one of the six return flights on Continental.<sup>25</sup> Similarly, consumers who wish to fly United can choose from 25 itineraries. Consumers who are indifferent between airlines but wish to fly on a single airline for their entire trip can choose among 61 total itineraries. Post-merger, United expects it to be profitable to add an additional frequency to this route for a total of 12 daily frequencies offered by the combined carrier.<sup>26</sup> Thus, post-merger, a passenger would be able to choose from 144 round-trip itinerary options on a single carrier.

<sup>24</sup> The DOJ recently recognized the potential for such benefits to arise from airline mergers. Evaluating the Delta/Northwest merger, economists at the DOJ wrote:

...the proposed merger might generate consumer benefits by facilitating schedule improvements, by allowing for more efficient allocation of aircraft across the network, and through marketing synergies that could make the merged carrier's service more attractive to consumers.

(Ken Heyer, Carl Shapiro, and Jeffrey Wilder (2009), "The Year in Review: Economics at the Antitrust Division, 2008-2009," *Review of Industrial Organization*, 35(3).)

<sup>25</sup> The example in this section assumes that consumers do not fly round-trips in a single day. For these consumers, the point that they would have more options on the combined carrier remains correct, but the calculations would be different.

<sup>26</sup> UAL Corporation, "Coldplay - Growth Conduits Q Schedule," July 1, 2010.

35. In the case of connecting flights, the post-merger increase in routing options could be even more dramatic. Even without the creation of more round-trip itineraries, improved connections and schedule diversification can benefit consumers because they reduce total travel time and allow more passengers to depart closer to their desired time or to have better backup travel options. I quantify this by creating a measure of scheduling convenience.<sup>27</sup> As shown in Exhibit 10, for the average United or Continental passenger, the merger is likely to improve scheduling convenience by four percent.<sup>28</sup>

36. Second, at airports served by both carriers, the merger will expand the size of the network available to consumers. This will be particularly true at airports where United and Continental service different destinations. Larger networks benefit consumers in several ways.<sup>29</sup> First,

---

<sup>27</sup> I define convenience as follows. For each hour of the week, I first determine the shortest amount of time for carrier *C* to deliver passenger *I* from origin *O* to destination *D*. This time period includes the difference between the desired departure time and the actual departure time, as well as the time spent in transit. For example, suppose a passenger wants to leave Chicago at 9:00 am to travel to Cleveland, but the only available United flight leaves at 11:00 am and arrives at noon. The shortest travel time offered by United to that passenger – the “convenience measure” is three hours.

After calculating the minimum time to destination for each hour of the week, I calculate a weighted average convenience measure for each carrier-route combination, where the weights are based on distributions of preferred departure times across the week. The departure time preference distributions were supplied to me by Continental and vary depending on the regions of the origin and destination and the length of haul and direction of travel. For example, passengers traveling from SFO to ORD may have different preferences for departure times than passengers traveling from ORD to SFO (different direction) or ATL to MCO (different length of haul and regions).

It should also be noted that the convenience measure is calculated on the basis of the marketing carrier -- that is, the carrier in a codeshare relationship that sells a ticket on a flight operated by a codeshare partner airline (the “operating” carrier) -- so that a codeshared marketing carrier is treated identically to the corresponding operating carrier. For example, if United and Continental codeshare on a specific route pre-merger, I assume that route convenience for United and Continental is identical for any given passenger on that route. I understand that once ticketed, carriers typically treat all passengers equally with regard to rescheduling, flying stand-by, or upgrading. However, as I discuss below, the value of flights on codeshare partners may be less than the value of flights on the airline itself. To the extent that this is true, I undervalue convenience by combining codeshare flights.

<sup>28</sup> For each itinerary, I compute the difference between the pre-merger convenience based on the marketing carrier for the itinerary and the post-merger convenience for the combined carrier. I then compute a weighted average, where the weights are pre-merger passengers on each UA or CO itinerary.

The four percent improvement is the reduction in the average elapsed time from when the passenger wants to depart to when he or she arrives at the destination.

<sup>29</sup> These benefits cannot be achieved via alliances. For example, under the current alliance, the frequent flyer programs are not fully integrated. To be specific, I understand that reciprocal accrual, redemption, and elite benefits are limited. *See, e.g.*, UAL Corporation, “Board of Directors Meeting,” April 30, 2010, UALCORP01379-1516 at UALCORP01393.

It is important to note that there is no evidence that large networks provide an effective barrier to entry. As I discuss in Section III, the industry has witnessed significant entry and exit over the past ten years.

larger networks enhance the value of frequent flyer miles by providing consumers with more options to redeem miles. Second, corporate customers may value larger networks. Third, as an airline gains passengers at an airport, the airline is more likely to invest in the types of airport facilities that are valued by consumers, *e.g.*, lounges, information desks, check-in kiosks, and curbside check-in. Fourth, consumers may develop familiarity with a carrier's facilities and procedures at a particular airport. Repeat airline customers have an incentive to invest in using and becoming familiar with the airline and they benefit from doing so. Consequently, as a carrier has a larger network, consumers can concentrate their flying on that airline to reach their desired destinations while minimizing their transactions costs of air travel.

37. The merger will create a broad network serving 208 domestic locations and 347 worldwide destinations (including 148 small communities).<sup>30</sup> In comparison, Continental currently serves 250 destinations while United serves 216 destinations. It is important to note that hub-and-spoke legacy carriers such as United and Continental have networks that reach into small communities and provide those communities and metro areas with service that LCCs do not and are not likely to offer.

38. It is also instructive to examine the increase in network size that will flow from the United (UA)/Continental (CO) merger on an airport-by-airport basis. For each carrier at each airport, I compute the number of destinations that are available via non-stop or one-stop. As shown in Exhibit 10, as a result of the merger, the average UA/CO passenger will be able to reach 5.5 (11.7 percent) more destinations via non-stop service out of a given airport.<sup>31</sup> Similarly, the average UA/CO passenger will be able to reach 26.8 percent more incremental destinations via one-stop service out of a given airport.

39. Third, the merger will transform many UA/CO codeshare and interline itineraries into online itineraries. The companies' internal models indicate that consumers prefer online itineraries to codeshare or interline itineraries.<sup>32</sup> Consumers may prefer online itineraries for a

---

<sup>30</sup> I compute the number of destinations using May 2010 schedules provided by United. To do so, I group domestic airports within the same city.

<sup>31</sup> For each itinerary, I compute the difference between the pre-merger network size based on the marketing carrier for the itinerary and the post-merger network size for the combined carrier. I then compute a weighted average, where the weights are pre-merger passengers on each United or Continental itinerary.

<sup>32</sup> For example, in United's Profitability Forecasting Model (PFM), the coefficient on codeshare itineraries ranges from -3.97 to -0.43 depending on the type of route and the size of the codeshare partner. *See*, UAL

number of reasons. Travel may be more seamless, departure and arrival gates may be closer to each other on connecting flights, and luggage may be less likely to get lost. A substantial number of passengers currently fly on codeshare or interline itineraries that would become online itineraries as a result of the merger. In particular, approximately 105,000 passengers currently fly annually on domestic UA/CO codeshare itineraries while approximately 120,000 passengers currently fly on UA/CO interline itineraries.<sup>33</sup>

*4. The merger will increase capacity and frequencies both domestically and internationally*

40. In the course of planning this merger, the parties have developed post-merger flight schedules.<sup>34</sup> I understand that these schedules were developed by planners at United and Continental based on methods used in the ordinary course of business.<sup>35</sup> I further understand that these schedules were used as inputs into the analysis presented to the merging parties' Boards of Directors when considering whether to undertake the transaction.<sup>36</sup> Thus, these schedules reflect the carriers' best predictions of what the post-merger schedule will look like.

---

Corporation, "Domestic Plus Time of Day 2.0," DLM2-ILM1.5 parameters.xls. Negative values indicate that consumers prefer online itineraries to codeshare itineraries. This is consistent with my demand model, discussed in more detail below, which allows for a quantification of a consumer's willingness to pay for online itineraries relative to codeshare itineraries. While interline itineraries are not included in the analysis, it is likely that interline itineraries offer even less value to consumers than codeshare itineraries.

<sup>33</sup> This calculation reports annualized passengers based on 4Q2009 data from the Department of Transportation's Origin and Destination Survey (DB1B). It excludes itineraries with any segment marketed by a carrier other than UA or CO and includes passengers on tickets with no more than 3 coupons per directional leg. Interline passengers connect to/from a United marketed and operated flight from/to a Continental marketed and operated flight. Codeshare itineraries have at least one segment operated by United and at least one segment operated by Continental and involve at least one codeshare segment. Note that these numbers are based on directional journeys.

<sup>34</sup> The schedules developed by United rely on data from the Official Airline Guide (OAG) from May 2010. I understand that planners at United have developed a series of schedules based on different assumptions about the post-merger network. The "simple" merger schedule simply combines the existing United and Continental schedules under a single code. The "fleet optimized" merger schedule applies United's Fleet Assignment Model ("FAM") to the simple merger schedule. The FAM optimizes the assignment of aircraft across the combined network. The "conduit" schedule supplements the fleet-optimized schedule by adding new frequencies to six conduit routes (routes between United and Continental hubs). The "growth" schedule supplements the fleet-optimized schedule by adding new frequencies to 25 new routes not currently served on a non-stop basis by either United or Continental. I understand that United modeled new frequencies on routes out of United hubs and Continental modeled new frequencies on routes out of Continental hubs.

<sup>35</sup> Interview with Greg Kaldahl, Vice President of Network Planning, United Air Lines, August 16, 2010.

<sup>36</sup> In particular, estimates of revenue synergies presented to the Boards of Directors were based on these post-merger schedules. The estimated revenue synergies were premised on the increases in output predicted by these models and included no assumed increases in fares. (Interview with Greg Kaldahl, Vice President of Network Planning, United Air Lines, August 16, 2010.)

41. ASMs are a standard metric for measuring capacity in the airline industry. As shown in Exhibit 11, annual ASMs offered by the combined carrier post-merger are expected to increase by 0.6 percent, from 258.1 billion to 259.7 billion, relative to the stand-alone schedules of the two carriers across the entire domestic and international network.<sup>37</sup> Domestically, ASMs are expected to increase by 1.0 percent from 144.0 billion to 145.6 billion.<sup>38</sup> Internationally, ASMs will increase by 0.04 percent from the current level of 114.1 billion.<sup>39</sup> The post-merger schedules also indicate that, on the fifteen domestic routes on which both United and Continental provide non-stop service, ASMs will increase by 11.1 percent.<sup>40</sup>

42. The predicted increase in capacity occurs for two fundamental (and related) reasons, both of which reflect benefits arising directly from the merger. First, as discussed above, the merger will improve the quality of service offered by the combined carrier. This increase in quality will lead to an increase in demand for seats on United and Continental flights. In order to accommodate this new demand, the parties have an incentive to increase capacity by adding new frequencies.

43. Second, the merger allows the new carrier to more efficiently allocate its fleet across the combined network in order to better match capacity to demand. The combined carrier can increase effective capacity, since it can utilize smaller equipment on routes with excess capacity and utilize larger equipment on routes that are capacity constrained. The combined mainline fleet will include more than 700 aircraft of various sizes. While the carriers have presumably optimized their individual fleets to the extent possible for their current networks and demand, the merger allows the parties to move United equipment to Continental routes and vice versa to accommodate new passenger flows.<sup>41</sup> For example, United's Profitability Forecasting Model

---

<sup>37</sup> Details of this calculation are contained in the backup to this report. I rely on the "conduit" schedule prepared by United. This schedule incorporates both fleet optimization and the addition of seven merger-enabled frequencies on conduit routes. United's standard profitability model shows that these seven frequencies would be profitable post-merger.

<sup>38</sup> I define domestic routes as all routes with both endpoints in the continental United States, Alaska, Hawaii, Puerto Rico, or the Pacific Territories.

<sup>39</sup> I define international routes as all routes not defined as domestic.

<sup>40</sup> These routes are listed in Exhibit 34.

<sup>41</sup> I understand that certain constraints limit the ability of carriers to fully optimize their stand-alone networks. For example, given the fixed costs of training and maintenance that are specific to different types of aircraft, carriers generally will not maintain small fleets of specific types of aircraft. Thus, the merger, by

(“PFM”) predicts that post-merger it will be optimal to replace a United Airbus 319 (with a 120 seat capacity) with a Continental Boeing 737-800 (with a 154 seat capacity) on the route from Portland, OR (PDX) to Chicago, IL (ORD) in order to meet higher demand there. Conversely, on the route from Houston, TX (IAH) to Washington, DC (DCA), the model predicts that it would be optimal to swap a Continental 737-800 with a United A319.

44. In addition to reflecting, United’s PFM predicts that it will be profitable to add seven new frequencies to six “conduit” routes (routes between United and Continental hubs).<sup>42</sup> Exhibit 12 shows the additional frequencies United’s models show are profitable on the following six routes: Denver (DEN)-Houston (IAH), New York (EWR)-San Francisco (SFO), Washington, DC (IAD)-Houston (IAH), Los Angeles (LAX)-Houston (IAH), Chicago (ORD)-Houston (IAH), and San Francisco (SFO)-Houston (IAH). To serve these routes, United’s planners have indicated that they would add seven aircraft to the fleet.<sup>43</sup>

45. I also understand that network planners at United and Continental have concluded that the merger potentially will enable the combined carrier to serve new domestic and international routes (including some routes not currently served by any carrier on a non-stop basis). Exhibit 13 shows the 25 routes to which United and Continental’s planners believe the merger could enable the combined carrier to introduce service. These routes include 14 routes from United or Continental hubs to other domestic destinations and 11 routes from United or Continental hubs to international destinations (primarily in Latin America). Of the 25 new routes, 12 routes include new service to small communities or metro areas.<sup>44</sup> To serve these routes, United’s planners indicate that they would add 24 aircraft to the fleet.<sup>45</sup>

---

combining multiple fleet types, can lead to efficiencies. (Interview with Paul Joklik, Senior Manager, Financial Analysis and Corporate Development, United Air Lines, August 16, 2010.)

<sup>42</sup> United’s PFM determines the profitability of UA’s schedule, evaluates the effect of changes to schedules, and then guides decisions driven by profitability. The model is used to predict leg-level demand and then apply estimates of costs and revenue to forecast the profitability of serving certain routes. (UAL Corporation, “Profitability Forecasting Model: An Introduction,” June 4, 2009, UALCO-KKNIG-00065319-5334; UAL Corporation, “Coldplay - Growth Conduits Q Schedule,” July 1, 2010.)

<sup>43</sup> Interview with Debra Hoitomt, Manager, United Air Lines Enterprise Optimization, July 28, 2010.

<sup>44</sup> Small communities are those classified as served by either “small hub” or “non-hub” airports in Federal Aviation Administration enplanement data. (See, Preliminary CY09 Enplanements at Commercial Service Airports, [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger/media/prelim\\_cy09\\_cs\\_enplanements.xls](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/prelim_cy09_cs_enplanements.xls).)

<sup>45</sup> Interview with Debra Hoitomt, Manager, United Air Lines Enterprise Optimization, July 28, 2010.

46. The addition of new frequencies and new routes to the schedule of the combined carrier further increases the capacity of the combined network. The additional capacity could be used to serve both local traffic as well as traffic flowing over these routes. In certain cases, the addition of new service may also stimulate demand. In particular, based on ordinary-course-of-business methods, United's planners predict that on routes where the combined carrier introduces new non-stop service and no other carrier currently offers non-stop service, total demand for air travel will increase on the order of 20-60 percent (depending on whether a route is classified as business, leisure, or mixed).<sup>46</sup>

*5. The carriers' internal planning models predict that the combined carrier will serve more passengers than would the two carriers on a stand-alone basis*

47. Quality of Service Index (QSI) models were originally developed by the Civil Aeronautics Board to facilitate network planning. Today, nearly all airlines use some version of a QSI model to make strategic decisions about route planning. To be specific, carriers routinely use QSI-based internal planning models that predict traffic as a function of itinerary, carrier, and airport characteristics. For example, as shown in Exhibit 14, United's PFM predicts passenger shares using service-quality characteristics, including the marketing airline on the itinerary, the number of connections (level of service) relative to other itineraries on the route, elapsed travel time, the convenience of the schedule (time of departure) compared to consumers' preferences, equipment type, codeshare status, airport presence, and relative fares.<sup>47</sup>

---

<sup>46</sup> Interview with Greg Kaldahl, Vice President of Network Planning, United Air Lines, August 16, 2010.

<sup>47</sup> The PFM consists of four modules. First, the model generates plausible itineraries using segment-level data from published OAG schedules as well as United's own internal schedules. The itinerary generating algorithm applies a series of rules (based on circuitry, connect times, and interlining) to create a set of plausible itineraries, *i.e.*, itineraries that are likely to attract some passenger demand. Second, the PFM relies on estimated coefficients from a multinomial logit model to make predictions about each itinerary's share of passengers on a route as a function of a number of variables that measure the value of the itinerary to passengers. United estimates 18 different versions of the model based on the size of the end-point airports and the length of haul. Shares are converted to passenger counts by estimating the total size of the market based on historical data. Third, the PFM applies a spill and recapture algorithm to estimate leg-level traffic and average yields. When demand for a particular segment exceeds capacity, the PFM "spills" some passengers to their second most preferred itinerary where they are "recaptured." The spill and recapture algorithm accounts for capacity constraints across the network. Finally, the PFM applies estimates of leg-level costs and prorated fares to determine the profitability of each flight.

To evaluate changes in itinerary characteristics, United has provided me with but-for and post-merger schedules. United and Continental based their estimates of demand and fares on 2009 data. They also assumed fuel costs of \$2.49 per gallon. They left all existing codeshare agreements in place. The schedules reflect the announced May 2010 schedules. United modified the May 2010 schedules in several ways to reflect certain changes in the industry that are likely to take place before the merger is consummated.

48. United has provided four post-merger schedules: simple (the networks are combined without any changes in routes, frequencies, or fleet organization), fleet-optimized (fleets are optimized), conduit (selected conduit frequencies are increased), and growth (additional routes are added to the network).<sup>48</sup> Each of these four schedules can be used to compute the number of passengers predicted to be carried by the combined carrier.<sup>49</sup> These estimates can be compared to the number of passengers that United and Continental would carry on a stand-alone basis to determine how much output (measured as passenger miles flown) is predicted to increase.

49. These benefits from combining the two airlines arise from four primary effects: i) *carrier preferences* (capturing the benefits that some Continental customers will enjoy from the services provided by the new “United” entity); ii) *presence* (capturing a variety of benefits that flow from having access to larger networks); iii) *codeshare* (capturing consumer preferences for online itineraries over codeshare itineraries); and iv) *fare ratio* (capturing the benefits when fares are reduced and the disutility associated with any theoretical increase in fares). Incremental demand from the fleet-optimized schedule arises from usage of the combined entity’s aircraft, which allows more passengers on high-value routes to fly their most desired itinerary. Incremental demand from the conduit and growth schedules arises from the increased itinerary options available to passengers.

---

<sup>48</sup> I rely primarily on predictions from United’s PFM in this section. I understand that Continental also uses a QSI model, which it calls “APM.” I understand that the Continental model does not net out the existing codeshare arrangement between United and Continental (though Continental did adjust for the codeshare arrangement as part of its revenue synergy calculations). However, I expect the APM to generate similar predictions regarding the increase in output generated by the merger. I note that the revenue synergies estimated by United and Continental, which are based primarily on the increase in passengers predicted by PFM and APM, respectively, are similar. In particular, Continental predicted \$760 million of steady-state net revenue synergies by 2014, of which \$710 million are accounted for by passenger revenue synergies. Similarly, United predicted \$856 million of steady-state net revenue synergies by 2014, of which \$826 million are accounted for by passenger revenue synergies. I understand that these passenger synergies arise due to predicted increases in passengers on the combined carrier and do not assume any fare increases. (Continental Airlines, Inc., “Board of Directors Meeting,” April 28, 2010, 4(c)(35), p. 23; UAL Corporation, “Board of Directors Meeting,” April 30, 2010, UALCORP01379-1516 at UALCORP01414.)

<sup>49</sup> To compute passengers carried, the PFM first predicts shares for each itinerary. These shares are then multiplied by the total size of the market. United assumes that the total market sizes are the same in each of the scenarios with the exception of the growth schedule, where it assumes that demand will increase on routes where the combined carrier offers new non-stop service.

50. Exhibit 15 shows the predicted passengers (measured by the number of directional trips) for each of the post-merger schedules.<sup>50</sup> United's PFM predicts that passengers will increase by as much as 2.2 percent overall and 1.2 percent domestically.<sup>51</sup> These increases in passengers reflect the merger-related improvements in the quality of service provided by the combined carrier. It is important to note that United's internal ordinary-course-of-business models predict that the merger will increase output and benefit consumers.

*6. Consumer benefits resulting from network and service quality improvements suggest that domestic consumer welfare (in the aggregate) will increase by at least \$442 million annually*

51. In its evaluation of the merger of Delta and Northwest, the Department of Justice (DOJ) developed a methodology that converts the predicted changes in demand generated by the parties' QSI models into estimates of the increase in consumer welfare resulting from the merger, assuming no changes in rivals' services.<sup>52</sup> The approach is explained more fully in Appendix D, but the basic intuition is straightforward. Consumer welfare can be measured by asking what decrease in price would generate an equivalent increase in passenger demand. For example, suppose that the increase in quality generated by the merger increased demand for the combined carrier (relative to the stand-alone carriers) by one percent. Suppose further that, holding quality fixed, a \$5 decrease in fares would also generate a one percent increase in demand. This suggests that the merger improves consumer welfare by \$5 per passenger. The computation is completed by accounting for the relationship between passenger demand and price, which is given by the demand curve for air travel. I draw estimates of the demand elasticity from the economics literature.<sup>53</sup>

---

<sup>50</sup> Passengers are counted for each directional itinerary. The count includes all flights marketed by United or Continental or the combined carrier.

<sup>51</sup> These estimates are based on the growth schedule, which adds frequencies to 25 new routes. The conduit schedule shows that the combined carrier would carry 1.4 percent more passengers overall and 1.0 percent more passengers domestically.

<sup>52</sup> Heyer, Shapiro, and Wilder (2009).

<sup>53</sup> In particular, I use estimates of product-level demand elasticity for business and leisure passengers from Steven Berry and Panle Jia (2009), "Tracing the Woes: An Empirical Analysis of the Airline Industry," mimeo, December 2009).

52. Exhibit 16 shows that the increases in domestic consumer welfare would total at least \$442 million annually, with additional benefits on international routes.<sup>54</sup> This amounts to \$5.01 per directional UA/CO passenger or 3.1 percent of average fares.

53. There will be substantial benefits on routes where Plaintiffs allege there will be substantial competitive effects, including non-stop overlaps<sup>55</sup> and connecting overlaps.<sup>56</sup> Exhibit 17 shows that benefits accruing to United and Continental passengers on the non-stop overlap routes will be at least \$68.1 million annually (equivalent to a 4.2 percent decrease in average fares). Similarly, benefits accruing to United and Continental passengers on other overlaps will be at least \$8.6 million annually (equivalent to 3.1 percent decrease in average fares).

54. The DOJ's QSI-based methodology is conservative for several reasons. First, the approach attributes benefits only to those passengers who choose United or Continental itineraries pre-merger. It does not account for the fact that some passengers may wish to switch to the improved products offered by the combined carrier post-merger.<sup>57</sup> Second, the PFM fails to capture improved scheduling convenience, described above.<sup>58</sup> Finally, the DOJ's approach fails to account for the fact that price elasticity of demand may be lower on routes with fewer carriers.<sup>59</sup>

55. To address these simplifications associated with the basic QSI approach, I have estimated a model of consumer demand for air travel that builds on the extensive academic literature on the

---

<sup>54</sup> Details of this calculation are included in the backup to my report.

<sup>55</sup> *Complaint* at ¶¶ 83-84. As of October 2010, United and Continental both plan to offer non-stop service on the following city pairs: Cleveland-Washington, DC; Washington, DC-Houston; Houston-Los Angeles; Houston-San Francisco; Cleveland-Denver; Washington, DC-New York; Los Angeles-Kahului; Chicago-Cleveland; Chicago-Houston; Chicago-New York; Denver-Houston; Denver-New York; Honolulu-Los Angeles; Los Angeles-New York; New York-San Francisco.

<sup>56</sup> *Complaint* at ¶¶ 107-108. I define connecting overlaps as city pairs with at least five passengers per day each way, on which United and Continental each have ten percent of passengers and combined they have at least 40 percent.

<sup>57</sup> Although the dollar benefit per passenger is determined by the amount of switching, the methodology only applies to passengers that were flying United or Continental pre-merger. No benefits accrue to passengers that switch from other carriers.

<sup>58</sup> This point applies to United's PFM model, Continental's APM model, and to QSI models more generally.

<sup>59</sup> In a standard logit model, elasticities are inversely proportional to market shares such that products with higher shares will tend to have lower elasticities, conditioning on price.

subject.<sup>60</sup> The details of the model are discussed in Appendix D; I present the basic intuition here.

56. The demand model uses historical data on air travel (I use data from 1Q2008 through 4Q2009) to estimate consumer preferences for various aspects of air travel. The data were obtained from the Department of Transportation's Origin and Destination Survey (DB1B), which is a ten percent random sample of tickets from reporting carriers in the United States. Itinerary data provided by United are used to determine certain itinerary characteristics. The data include itineraries that are based on segment-level data from the OAG and created by United's itinerary generation model, which applies a number of filters to create plausible origin-destination-level itineraries.<sup>61</sup>

57. Note that consumers typically choose between a variety of products (flights) that comprise different fares and other characteristics. The choices that consumers make reflect utility-maximizing choices. The model – as is true of all demand models – estimates the relationship between choices made by consumers in the historical data and the characteristics of those choices in order to infer consumer preferences for particular product characteristics. Using well-established methods, I then estimate the value that consumers place on air fares, service, and other air travel characteristics. A comparison of the pre- and post-merger schedules described above provides the foundation for me to estimate the change in consumer welfare arising from the merger.<sup>62</sup>

58. Routes are defined as directional city pairs, and products are unique combinations of an itinerary and a ticketing carrier, where an itinerary is a directional sequence of airports.<sup>63</sup> Non-stop itineraries and connecting itineraries for the same route sold by the same carrier are thus

---

<sup>60</sup> See, e.g., Peters (2006), "Evaluating the Performance of Merger Simulation: Evidence from the U.S. Airline Industry," *Journal of Law and Economics*, 49: 627-69; Berry and Jia (2009).

<sup>61</sup> See Appendix D for a full description of the data creation.

<sup>62</sup> Note that both the PFM and the demand model use a multinomial logit framework. However, they differ in their specification, the data used, and in the application of parameter estimates to compute consumer welfare.

<sup>63</sup> Groups of airports that constitute cities are defined in Appendix D.

different products, as are identical itineraries sold by different carriers.<sup>64</sup> Each itinerary sold by a carrier competes against all other itineraries sold by all carriers on the route.

59. Consumers' choices are reflected in the actual passenger shares for each itinerary.<sup>65</sup>

These choices are assumed to be a function of the following variables:<sup>66</sup>

- Average fare<sup>67</sup>
- Itinerary characteristics: *e.g.*, whether an itinerary is non-stop or connecting, is codeshared or not, and the type of equipment flown<sup>68</sup>
- Convenience of the schedule offered by the ticketing carrier on the route
- Network quality<sup>69</sup>
- Hub status of origin airport.<sup>70</sup>

60. Exhibit 18 reports summary statistics for the key variables.

61. Exhibit 19 shows the parameter estimates from the demand model. Overall, the estimates appear to be economically sensible and consistent with findings in the literature. For example, the parameter estimates indicate that consumers dislike flights with higher fares, less convenient

---

<sup>64</sup> To illustrate, DEN-STL-DEN is one route and STL-DEN-STL is a different route. DEN-ORD-STL-ORD-DEN and DEN-STL-DEN are two possible itineraries on the first route. DEN-ORD-STL-ORD-DEN sold by United Air Lines is one product and DEN-ORD-STL-ORD-DEN sold by American Airlines is a different product.

<sup>65</sup> As is standard in the literature, share is defined to be the ratio of the number of passengers choosing a particular product to the geometric mean of the populations of the endpoint cities. See, *e.g.*, Steven Berry (1994), "Estimating Discrete-Choice Models of Product Differentiation," *The RAND Journal of Economics*, 25(2), 242-262; Peters (2006); Berry and Jia (2009).

<sup>66</sup> To control for unobserved characteristics, I also include route, carrier, and year-quarter fixed effects.

<sup>67</sup> Airline Origin and Destination Survey (DB1B) data were obtained from the Department of Transportation to calculate passenger-weighted average fares at the level of the itinerary/ticketing carrier. The fares reported in the DB1B database reflect all applicable taxes and fees. (Code of Federal Regulations, "Uniform system of accounts and reports for large certificated air carriers," 14 CFR 241 at 165, *available at* [http://www.bts.gov/laws\\_and\\_regulations/docs/Part241cy2000.pdf](http://www.bts.gov/laws_and_regulations/docs/Part241cy2000.pdf), *site visited* August 17, 2010.)

<sup>68</sup> Equipment type is specified as propeller jet (0), regional jet (1), or mainline jet (2). For connecting itineraries, I take the distance-weighted average equipment type across all legs.

<sup>69</sup> A carrier's network quality at an airport is measured as the number of destinations that can be reached on the carrier via non-stop service from that airport. As with the convenience measure, the network breadth variables are based on marketing carriers. As a result, the pre-merger values of network size already account for destinations that can be reached via a codeshare partner and the change in network size will be incremental to the number of destinations available through the existing codeshare arrangement.

<sup>70</sup> Carrier hubs are defined as follows: American (DFW, JFK, MIA, ORD), Alaska (ANC, LAX, PDX, SEA), Continental (CLE, EWR, IAH), Delta (ATL, CVG, JFK, SLC), Frontier (DEN), AirTran (ATL), Northwest (DTW, MEM, MSP), United (DEN, IAD, LAX, ORD, SFO), US Airways (CLT, PHL, PHX). Northwest hubs are allocated to Delta in 2009 to account for the merger of Northwest and Delta.

schedules, and those that are codeshare itineraries (relative to online itineraries). Conversely, consumers prefer non-stop itineraries, carriers that reach more destinations, itineraries flown on larger equipment types (*e.g.*, mainline jets), and itineraries on carriers operating out of a hub airport.<sup>71</sup>

62. I use the estimated demand parameters to compute the consumer surplus (the aggregate difference between what consumers are willing to pay and what they actually pay) for the pre- and post-merger schedules.<sup>72</sup> The difference between the two values represents the consumer benefits arising from the merger.

63. The basic demand model implicitly assumes that consumers choose flights that maximize utility, regardless of whether particular flights have reached capacity. To account for capacity restrictions, I have relied on United's estimates of both unconstrained and constrained demand. The constrained estimates apply United's "spill and recapture" algorithm. With respect to the schedule that optimizes frequencies on the hub-to-hub routes, the constrained demand benefits estimates (computed using the DOJ approach) are approximately 49.6 percent of the unconstrained demand estimates. To account for this, I scale down the estimated benefits by 49.6 percent. As shown in Exhibit 20, I find that annual consumer welfare will increase by \$579 to \$840 million annually on domestic routes as the result of the merger.<sup>73</sup>

64. Thus the direct estimation of consumer demand for air travel confirms the consumer benefit estimates yielded by implementation of the DOJ approach and indeed suggests that the estimates are likely to be conservative. I conclude that the transaction would result in an

---

<sup>71</sup> The estimated average product-level own-price elasticity for UA and CO flights is 1.63. Note that customers appear to have a preference for flying on carriers operating out of a hub airport even after conditioning on the size of the network. This may reflect additional benefits of hubs including better lounges, nicer terminals, and other amenities.

<sup>72</sup> For a description of this technique, *see* Kenneth A. Small and Harvey S. Rosen (1981), "Applied Welfare Economics with Discrete Choice Models," *Econometrica*, 49(1):105-130. This calculation is described more fully in Appendix D. This approach explicitly allows that consumers switch products.

<sup>73</sup> The range of estimates reflects whether I allow substitution with the outside good (defined as the option of not traveling via air).

This estimate is likely to be conservative. In contrast to the DOJ approach, which assumed there were two consumer types: business and leisure. I model a single representative consumer in my demand estimation. Allowing for multiple consumer types is likely to increase the benefits, which fall disproportionately to business types who likely place a lower value on the marginal dollar and higher value on certain air travel characteristics such as convenient schedules and larger networks. *See, e.g.*, Berry and Jia (2009).

increase in annual domestic consumer welfare of at least \$442 million and possibly as much as \$840 million, with additional benefits on international routes.

## **V. THE MERGER RAISES NO SERIOUS COMPETITIVE ISSUES FOR EITHER THE PLAINTIFFS OR THE GENERAL FLYING PUBLIC**

### **A. THE AIRLINE INDUSTRY HAS BECOME INCREASINGLY COMPETITIVE OVER TIME**

65. As described in Section III, the airline industry has become increasingly competitive since deregulation, in large measure due to the entry and growth of LCC competitors. LCC entry into and growth at numerous hub airports or at airports adjacent to hubs has proven to be an important competitive restraint on legacy carriers. Indeed, research has shown that fares to and from hubs have declined relative to other fares, driven by LCC competition at those hub cities.<sup>74</sup>

66. The threat of LCC competition is real for United and Continental. Both have significant exposure to competition from LCCs, with 66 percent of United's domestic passengers and 71 percent of Continental's passengers travelling on routes where there is at least one LCC with significant share (ten percent or more of passengers). Furthermore, LCCs compete at all of United's and Continental's domestic hub cities, either at the hub itself or from an adjacent airport. At all eight of their combined domestic hubs, United and Continental will face competition from Southwest Airlines, which has been so successful as a low-cost carrier that it is now the largest domestic airline in terms of passengers carried.<sup>75</sup> United and Continental will also face competition at their hubs from Frontier Airlines (which has nearly 20 percent of O&D passengers at Denver), Virgin America (with eight percent of passengers at San Francisco), and jetBlue (with nearly 20 percent of passengers at New York).<sup>76</sup> This LCC competition will be unaffected by the merger and will continue to provide a competitive constraint on the post-merger behavior of the combined carrier.

<sup>74</sup> Severin Borenstein (2005), "U.S. Domestic Airline Pricing, 1995-2004," University of California, Berkeley, Competition Policy Center, Working Paper No. CPC05-48.

<sup>75</sup> Southwest carried 82 million domestic O&D passengers in 2009; the next largest carrier was Delta with 75 million domestic O&D passengers. (Calculated from O&D passenger data from U.S. Department of Transportation, DB1B Data, 2009.)

<sup>76</sup> I also note that Virgin America appears to have significant expansion plans, since it has recently placed large new aircraft orders. (Virgin America Press Release, "Virgin America Spread its Wings: Airline plans order for 50 Airbus A320 Aircraft, with Options for an additional 20," *available at* <http://www.virginamerica.com/press-release/2010/Virgin-America-Spreads-Its-Wings-Orders-60-New-Aircraft.html>, *site visited* August 17, 2010.)

67. Although Plaintiffs point to the mergers of carriers over time as a source of competitive harms, average inflation-adjusted domestic airline fares have declined over time; see Exhibit 3.<sup>77</sup> This decline in price and the increase in domestic capacity (see Exhibit 1) have occurred together with the mergers that Plaintiffs warn against. Plaintiffs' characterization of mergers in this industry is incomplete because they fail to account for the rise of new LCC competitors.<sup>78</sup> Plaintiffs' story cannot account for the actual performance of the airline industry which has increased capacity while inflation-adjusted prices have fallen.

**B. THE VOLATILITY AND HETEROGENEITY OF AIRLINE ROUTE STRUCTURES, FLIGHT OFFERINGS, COSTS, AND FARES HINDER FARE COORDINATION**

68. Plaintiffs argue that concentration in the "United States airline market" will increase significantly, giving rise to a "substantial increase" in "prospects for effective collusion."<sup>79</sup> But setting aside the question of whether the domestic market is a proper relevant antitrust market, Plaintiffs ignore many factors in the industry that make collusion difficult.

69. Across carriers on a given route, there are clear differences in flight frequencies, average daily non-stop seats, the mixes of non-stop versus connecting service, and the types of equipment flown. (See Exhibit 21) Carriers further differentiate their product offerings on the basis of flight times, airport service and amenities, breadth of frequent flyer offerings from particular airports, and minimum-stay and advance-purchase requirements. This heterogeneity makes coordination on the setting of fares difficult at best.

70. U.S. airlines also have costs that are heterogeneous and volatile. Exhibit 22, which shows carriers' operating costs per available seat mile over the past two decades (1990-2009), paints this picture clearly. While Southwest and jetBlue generally have had the lowest costs per ASM, the rankings of the other carriers have changed many times over the period. Further, while costs have generally increased, the direction and magnitude of cost changes have been highly variable from quarter to quarter across carriers. The heterogeneity and variability in costs hinders fare coordination.

---

<sup>77</sup> *Complaint*, ¶¶ 65-70. For evidence, see also Borenstein (2005).

<sup>78</sup> See *Complaint*, Exhibit A. Oddly, Plaintiffs' characterize Southwest Airlines as a "small factor" in the industry. (*Complaint*, ¶ 96.) With its industry-leading 82 million passengers, Southwest Airlines is anything but a "small factor."

<sup>79</sup> *Complaint*, ¶ 94.

71. Fare coordination is also hindered by the fact that airfares are highly variable and volatile. Airfares vary across carriers within a given route and within each carrier on a given route, as carriers sell tickets in dozens of rate classes. This is to be expected, given the mixes of passengers with differing preferences for lower fares, higher service quality, and other airline characteristics.

72. Exhibit 23 shows the substantial dispersion in fares across carriers within a given city-pair and quarter. On average, 4.6 percent of passengers on any city-pair pay less than half the average fare for the city-pair. At the high end, over 11.8 percent of passengers pay more than 150 percent of the average fare, and 4.4 percent pay more than double the average fare.

73. Exhibit 24 breaks down the fare dispersion by specific city-pairs, showing the dispersion of fares for tickets sold (by any carrier) on the 10 top city-pairs by passengers flown. It is clear that there is a wide distribution of fares paid even by passengers flying the same city-pair in the same quarter. Clearly for these routes, consumers are buying tickets at a widely divergent set of price points.

74. Fares charged by a single carrier on a given route also tend to be widely dispersed. In fact, Exhibit 25 shows that the dispersion in fares within a given carrier is comparable in magnitude to the dispersion in fares for the route over all carriers. On average, 4.1 percent of a single carrier's passengers on a given route pay less than half the average fare of the carrier on the route; 11.2 percent of the carrier's passengers pay more than 150 percent of the carrier's average fare for the route and 4 percent pay more than double the carrier's average fare.

75. The combinations of fares and quantity of seats airlines offer at any time are not transparent, a characteristic that further hinders coordination. In addition to changing their displayed fares for each fare class, airlines also frequently change the number of tickets they offer for sale in each class, through their system of yield management. Unlike the fares themselves, carriers do not publicly display the number of tickets they offer for sale in each fare class, which reduces price transparency. As a result, the ability to observe the fares that competitors offer provides only limited information given that the number of tickets offered at each fare is not public.

76. I understand that while airlines can see many of the fares that their competitors offer to the public, there are also many fares that are not publicly observable. These include special

discounts offered to members of frequent flyer programs, members of other travel clubs, students, and other selected individuals; discounted pricing deals provided to corporations; the airfare portion of packages that bundle air travel with hotels, rental cars, and other travel services (frequently offered by online travel services such as Expedia or Orbitz); and tickets sold through auction-based online sites such as Priceline.com or Hotwire.com.

77. Tickets sold in these ways make up a sizable portion of all sales. According to data from United's lifted revenue tracking system for 2009, tickets purchased in the U.S. under privately negotiated corporate discounts accounted for ten percent of tickets sold and 15 percent of ticket revenue. Tickets sold under the other non-transparent categories comprised another 11 percent of tickets and 12 percent of ticket revenue. In combination, these private offers and individual negotiations, which provide a way for competitors to make secret price cuts without changing publicly observable fares, account for 27 percent of United's U.S. ticket revenue.<sup>80</sup>

78. Since deregulation, the airline industry has been characterized by extensive entry and exit at the national and route level. Deregulation and entry have not only increased competition and reduced average fares, but also created conditions that hinder coordination. Exhibit 8 charts the large number of entries and exits (along with bankruptcies) from 1979-2009. Since 1990, entrants include Spirit, AirTran, jetBlue, Allegiant, and Virgin America, while exits include Eastern, Midway, Pan American, Independence Air, Skybus, ATA, and Aloha. Both the large number of entries and the large number of exits are evidence of an industry whose participants are frequently changing. This implies that the barriers to entry are relatively low.

79. The number of entry and exit events is even more striking at the route level. As seen in Exhibit 7, since 2000 almost 85 percent of the top 1,000 city-pairs have experienced at least one entry event with almost one-third experiencing four or more entry events. Again this evidence supports the view that barriers to entry are minimal.

---

<sup>80</sup> Data are for U.S. point of sale, but include both domestic and international destinations. Data include only tickets that were actually flown (lifted), *i.e.*, excludes tickets that were cancelled, refunded, or otherwise went unused. Corporate tickets include private fares and discounts off of published fares; the other nontransparent categories include Travel Management Company agreements; consolidation and wholesale tickets; United Vacations; and OTA opaque (Priceline, Hotwire). Figures provided by Stacey Dickinson, Director, North America Travel Management Company Channel Corporate Share Agreement Analysis, United Air Lines.

80. Exhibit 26 summarizes city-pair-level entry and exit by carrier. Excluding Alaska Airlines, which is smaller than other legacies, the top six legacy carriers have between 165 and 308 entry events into one of the top 1,000 city pairs over the past decade, and between 329 and 671 combined entries and exits. The top three LCCs also have a large number of entries, with 264 for AirTran, 251 for Southwest, and 130 for jetBlue.

81. Fare coordination will be more difficult and less likely in the presence of such frequent entry and exit. Coordinated airline pricing requires setting and maintaining optimal prices on routes with a changing mix of competitors, each of which has a distinct cost structure, route map, mix of aircraft, and other distinguishing characteristics. These conditions are not conducive to the use of coordinated behavior to elevate fares.

**C. THERE IS NO POTENTIAL HARM TO PASSENGERS ON INTERNATIONAL ROUTES**

82. The Complaint posits a market for the transportation of airline passengers to and from the United States on international flights and further states that “United and Continental are substantial potential rivals and potential competitors in the relevant market.”<sup>81</sup>

83. I understand that the international aspects of the UA/CO business are exempt from antitrust scrutiny. This is because United and Continental, members of the STAR global alliance, were granted antitrust immunity by the U.S. government on international routes in 2009.<sup>82</sup> This grant of immunity allows United and Continental to coordinate on fares, schedules, capacity, *etc.*, on international routes, without being subject to the scrutiny of the Federal antitrust laws. Thus, with the exception of specific routes on which immunity was not granted, *i.e.*, “carve-outs,” United and Continental are already free to coordinate on international routes. Since they can already coordinate on fares, schedules, and capacity, economic theory indicates that United and Continental will jointly maximize profits and behave as a single company on international routes. Thus, with the potential exception of carve-outs, the merger has no incremental adverse competitive effect on international routes.<sup>83</sup>

---

<sup>81</sup> *Complaint*, ¶ 29.

<sup>82</sup> *STAR Immunity Order*.

<sup>83</sup> I note that the European Commission has already cleared this transaction. European Commission, Press Release, “Mergers: Commission approves merger between United Air Lines and Continental Airlines,” July 27, 2010, available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1010>.

84. When the Department of Transportation approved antitrust immunity for a number of STAR alliance members (including United and Continental), it imposed a limited number of carve-outs. The vast majority of the carve-outs, shown in Exhibit 27, pose no competitive issues for the merger of United and Continental because, with the exception of routes between the U.S. and Beijing (discussed below), none of the routes is served on a non-stop basis by both United and Continental. Thus the merger has no incremental adverse effect on competitive conditions on the non-Beijing carve-out routes. Although United and Continental were the only domestic carriers providing non-stop service between the U.S and Beijing at the time the carve-out was imposed, two additional domestic carriers, American Airlines and Delta Air Lines, now offer non-stop service between the U.S. and Beijing.<sup>84</sup> The DOT's order indicated that when other domestic carriers began serving these routes with sufficient frequency and for a sufficient period of time, it would remove the U.S.-Beijing carve-out and grant antitrust immunity on those routes.<sup>85</sup> Once the U.S.-Beijing carve-out is removed, the merger has no incremental adverse competitive effect on any international route.

85. Even if United and Continental had not been granted antitrust immunity on international routes, there is still no competitive concern on international routes. First, the Complaint offers no empirical or logical support for defining a single international market as, "the transportation of airline passengers to and from the United States on international flights."<sup>86</sup> Thus an analysis based on overall service on international routes is simply incorrect.

86. Second, even if one accepted a single international market, the Complaint ignores a major source of competition faced by United and Continental on international routes: foreign carriers. Exhibit 28 illustrates the distribution of capacity across carriers when all competing carriers are included. The Complaint states that the combined company "will control 53 percent of all traffic

---

<sup>84</sup> American and Delta both initiated service in the second quarter of 2010, after receiving the requisite landing authorities from the Chinese government. (Delta Press Release, "Delta Receives Final Chinese Government Approval to Begin Nonstop Flights between Seattle, Beijing," May 18, 2010, *available at* <http://news.delta.com/index.php?s=43&item=1029>, *site visited* August 17, 2010; American Airlines Press Release, "American Airlines Launches New Flight Between Chicago O'Hare and Beijing, China," May 25, 2010, *available at* <http://aa.mediaroom.com/index.php?s=43&item=2931>, *site visited* August 17, 2010.)

<sup>85</sup> Before the carve-out can be lifted, DOT requires that one U.S. carrier initiate and maintain service with at least five weekly roundtrips for a period of at least nine months. (*STAR Immunity Order*, p. 21.) Since American and Delta instituted service just a few months ago, the carve-out remains in place.

<sup>86</sup> *Complaint*, ¶ 113.

on Pacific routes.”<sup>87</sup> This statement is highly misleading, since it excludes foreign carriers, which provide approximately 63.1 percent of all passenger airline capacity (seats) on trans-Pacific routes. Indeed, in terms of capacity, United and Continental provide only 18.8 percent of seats on transpacific routes.<sup>88</sup>

87. Similarly, the Complaint misrepresents the competitive situation on trans-Atlantic routes, suggesting that the parties’ combined traffic will be 40 percent of the market.<sup>89</sup> Once again, Plaintiffs exclude from this calculation foreign carriers which collectively account for more than half (55.6 percent) of trans-Atlantic capacity. Combined, United and Continental provide only 15.6 percent of trans-Atlantic seats.<sup>90</sup> Finally, the Complaint fails to recognize the operations of a number of low-cost carriers such as jetBlue, Spirit, AirTran, and Volaris. All of these LCCs have been rapidly expanding to the Caribbean, Mexico and even parts of Central and South America, and combined account for 9.1 percent of seats to Latin American destinations.<sup>91</sup> Likewise, Canadian LCCs such as WestJet and Porter have been rapidly expanding their service between the U.S. and Canada. Combined, they now account for nearly 12 percent of seats between the two countries.<sup>92</sup>

88. Third, if one examines airport or city pairs, it is clear that United and Continental do not directly compete on international non-stop routes. Although United and Continental do serve a number of common international destinations, there is not a single international city pair on which United and Continental both offer non-stop service.<sup>93</sup> In fact, the two airlines have complementary rather than competing strengths in their international offerings. United’s core

---

<sup>87</sup> *Complaint*, ¶ 59.

<sup>88</sup> United’s share of seats is 13.8 percent and Continental’s is 5.0 percent.

<sup>89</sup> *Complaint*, ¶ 61.

<sup>90</sup> United’s share of seats is 7.6 percent and Continental’s share is 8.0 percent.

<sup>91</sup> In Latin America, including the Caribbean, jetBlue, serves 15 destinations, Spirit serves 21, and AirTran serves four. jetBlue and Spirit each serve more Latin American destinations than United and have greater shares of seats than United.

<sup>92</sup> WestJet serves 14 destinations in the U.S. and Porter serves three.

<sup>93</sup> Although there may be a small number of international city pairs on which United and Continental both offer connecting service, other carriers also are likely to offer connecting service and for this reason, such international connecting city pairs are not usually a source of competitive concern. *See, e.g., Final Order*, p. 21: “Given the number of connecting service options available involving both U.S. and foreign carriers, we do not believe that a reduction in the number of competitors in relatively small connecting markets will significantly affect consumers.”

international strength is the Pacific, while Continental's core international strength is in Latin America.<sup>94, 95</sup> Therefore, even without immunity, there is simply no evidence that the merger would result in a loss of competition on international routes; there is no prospect for consumer harm on any international route.

**D. HARM ON DOMESTIC ROUTES IS HIGHLY UNLIKELY**

89. The Complaint asserts a national market, but also discusses possible harm at particular airports and on particular routes. To be complete, I comment below not only on national markets but also on three possible other markets that might be raised by the Plaintiff: airports, airport pairs, and city pairs. I describe below why consumer harm is highly unlikely whatever definition of the market or markets is adopted.

*1. National "market"*

90. The Complaint asserts that the relevant antitrust market is a national market, "the transportation of airline passengers in the United States."<sup>96</sup> In calculating HHIs in this "market," Plaintiffs include only "Legacy carriers (major hubbed airlines)."<sup>97</sup> Although Plaintiffs do not list these carriers, the major legacy carriers are typically taken to be Alaska Airlines, American, Continental, Delta (including Northwest), United, and US Airways.<sup>98</sup> Even if I accept for purposes of discussion that the relevant antitrust market is national, I cannot accept Plaintiffs' apparent belief that they can ignore competitors within this national market. Exhibit 29 shows the pre-merger and post-merger HHIs for a hypothetical national market using all competitors; using legacy carriers only; and using legacy carriers plus Southwest.<sup>99</sup> It is clear that by

---

<sup>94</sup> On transpacific routes, United has 13.8 percent of seats while Continental has just five percent. On Latin American routes, Continental has 13.0 percent of seats while United has less than two percent. (*See*, Exhibit 28.)

<sup>95</sup> Although both carriers have significant transatlantic operations (United's seat share is 7.6 percent and Continental's is 8.0 percent), they provide service from different gateways, with the bulk of Continental's service centered at New York City while United offers service from Washington D.C. and Chicago in addition to its three Western hubs (San Francisco, Los Angeles and Denver).

<sup>96</sup> *Complaint*, ¶ 29.

<sup>97</sup> *Complaint*, ¶ 29.

<sup>98</sup> GAO, "Legacy Airlines Must Further Reduce Costs to Restore Profitability," GAO-04-836, August 2004, n. 1. In distinguishing between legacy airlines and LCCs, the GAO noted that "Each of the legacy airlines predate airline deregulation of 1978 and all have adopted a hub-and-spoke network model that can be more expensive to operate than a simple point-to-point service model."

<sup>99</sup> The latter two calculations follow the Plaintiffs' proposed methodology. (*Complaint*, ¶ 29)

incorrectly restricting the set of competitors, Plaintiffs artificially inflate the HHIs and the post-merger change in HHI. When all competitors are included in the calculation, the post-merger national HHI, whether measured by passengers, RPMs, or ASMs, is less than 1500, and the changes in HHI are around 150. Thus, using Plaintiffs' market definition, the airline industry is only moderately concentrated under the 1992 DOJ/FTC Horizontal Merger Guidelines and unconcentrated under the proposed 2010 revision of the Guidelines.<sup>100</sup> According to the proposed Guidelines, "mergers resulting in unconcentrated markets are unlikely to have adverse competitive effects and ordinarily require no further analysis."<sup>101</sup>

91. Given the low level of concentration at a national level, the growth of competition from LCCs, and the many factors that would impede coordination among the five legacy carriers that will remain after the merger, there is no reason to believe that the merger will increase the likelihood of fare or other coordination on a national basis.

## 2. Airport markets

92. Airports *per se* are not a properly defined relevant market and to my knowledge have never been so designated by the Department of Justice. Markets are defined with respect to consumer demand and consumers do not demand or buy "air travel at Chicago's O'Hare airport." They generally want to know where the plane is headed before they decide to pay for the flight. Nevertheless, Plaintiffs make three claims about concentration at the airport and city levels. First, Plaintiffs claim that the merger "will increase market concentration in four of the 100 largest U.S. cities, namely, Washington D.C., San Diego, Seattle, and New Orleans."<sup>102</sup> Although it is literally true that any merger of firms competing in the same markets will result in an increase in concentration, the fundamental question is not whether concentration will increase but whether the merger is likely to lead to consumer harm. That question cannot be answered without considering the projected magnitude of the increase in concentration, and without

---

<sup>100</sup> Under the 1992 Horizontal Merger Guidelines, a market with an HHI between 1000-1800 is considered to be moderately concentrated, (U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," released 1992, revised 1997, § 1.51) Under the proposed new Horizontal Merger Guidelines, an industry with an HHI of less than 1500 is considered to be unconcentrated. (*Draft Merger Guidelines*, § 5.3.)

<sup>101</sup> *Draft Merger Guidelines*, § 5.3.

<sup>102</sup> *Complaint*, ¶ 72.

evaluating the extent, if any, to which competitors are able to respond to any attempted fare increases by the merged firm.<sup>103</sup>

93. Since both United and Continental serve the four cities cited in the Complaint, the merger will increase the concentration of passengers served in these cities. But the increases in concentration are modest, and certainly not of an order of magnitude that should cause any competitive concern. Exhibit 30 shows the carriers serving each of these cities and their shares of passengers. Southwest Airlines is a significant force at all four cities, and indeed is the largest carrier at three of the four. In contrast, the merging carriers are relatively small. In three of the four cities only one of the two merging carriers has a passenger share exceeding ten percent, and in the fourth city (Seattle) neither merging carrier has a share over ten percent. In Washington, DC, for example, it is difficult to see how the addition of Continental's 3.1 percent share to United's 16.1 percent share represents a significant increase in concentration that would result in any fare elevation. Indeed, Plaintiffs offer no theory of how such a result will occur in these four cities.<sup>104</sup> Four carriers (including one LCC) will serve Washington, DC, New Orleans, and Seattle post-merger with a passenger share of ten percent or more, and three carriers (including one LCC) will serve San Diego. In all four of these cities, competition following the merger will continue to constrain the merged carrier.

94. Plaintiffs' second claim is that there are 17 airports that will experience "undue increases in market concentration as a result of defendant's merger."<sup>105</sup> Again, an airport does not constitute a relevant market. Nevertheless, for purposes of discussion I will evaluate competition at these airports. Exhibit 31 shows the carriers serving each of these 17 airports. As with my analysis of cities, it is apparent once one looks at the data that the merger poses no likely competitive problem. First, one or both of the merging parties are minor players at these airports; at 15 of the 17 airports, the share of the smaller merging party is less than ten percent and in many cases it is less than five percent. At the last two airports, (which are exceedingly

---

<sup>103</sup> In addition, an analysis of the efficiencies and consumer benefits from the merger are also crucial in the determination of a merger's overall effect.

<sup>104</sup> Plaintiffs make various claims regarding "dominance" at airports, but these claims do not appear to refer to the four cities they cite at ¶ 72. For these four cities, Plaintiffs simply note an increase in concentration.

<sup>105</sup> *Complaint*, ¶ 73.

small airports with only six departures per day each), three carriers will continue to provide service post-merger.

95. Eleven of the 17 airports are served by LCCs. Moreover, at four of the largest of the 17 airports, there is competition from alternative airports, and especially from LCCs at those alternative airports. Southwest is the largest carrier in the Chicago and San Francisco metropolitan areas with 26 percent of passengers and 33 percent of passengers respectively.<sup>106</sup> Southwest is the second largest carrier in the Houston metropolitan area.<sup>107</sup> jetBlue and Delta each have passenger shares of approximately 20 percent in the New York metropolitan area.<sup>108</sup> Given the small presence of one or both of the merging parties, the number of remaining post-merger competitors, the presence of LCC competition at most of the airports, and competition from carriers at alternative airports, there is no reason to believe that United and Continental will be able to raise fares at these airports post-merger.<sup>109</sup>

96. Plaintiffs' third claim is that the merger results in a number of monopolies, duopolies, or oligopolies at certain (unnamed) airports and that this "will likely result in increases in fares and reduction of service" at those airports.<sup>110</sup> In its claims about the number of monopoly airports, duopoly airports, *etc.*, Plaintiffs appear to be relying on a report by GAO concerning the United-Continental merger.<sup>111</sup> That report indicates that, using certain assumptions, the merger will result in monopolies, duopolies, *etc.*, on *airport-pair routes*, not at *airports*.<sup>112</sup> (I do not necessarily accept the GAO assumptions or the implications of its analysis, but merely cite the report here to point out that Plaintiffs' claims are erroneous.) If and when Plaintiffs put forward an analysis of the number of airports that are left with one, two, three carriers, *etc.*, post-merger,

---

<sup>106</sup> Southwest serves Chicago from Chicago-Midway airport and San Francisco from both San Francisco and Oakland airports.

<sup>107</sup> Southwest serves Houston from Houston Hobby airport.

<sup>108</sup> jetBlue serves New York from New York-Kennedy airport and Delta serves New York from Newark and LaGuardia airports.

<sup>109</sup> Concentrations will increase to some extent at Yampa Valley and Eagle County Regional airports. However, the traffic flow is very small (six departures each day at each airport), and there will be three legacy competitors after the merger. As a result, there is no evidence that fares will increase.

<sup>110</sup> *Complaint*, ¶¶ 76-80.

<sup>111</sup> GAO, "Issues Raised by the Proposed Merger of United and Continental Airlines," GAO-10-778T, May 27, 2010 (hereinafter, "GAO Merger Study").

<sup>112</sup> GAO Merger Study, p. 17.

I reserve the right to respond. For the moment, I simply note that, as shown in Exhibit 32, there are very few airports at which both United and Continental currently provide significant levels of service. This reflects the fact that the merger involves largely complementary networks, and is precisely the type of airline merger that is likely to result in benefits to consumers rather than harms.

3. *Plaintiffs' home airports are largely unaffected by the merger*

97. Assuming that Plaintiffs make primary use of airports close to their homes, I have analyzed competitive conditions at the airports that are closest to the plaintiffs' home addresses as given in the Complaint.<sup>113</sup> Exhibit 33 shows, for each Plaintiff, the airport closest to the Plaintiff and the passenger shares of United and Continental at that airport as well as other carriers that serve the airport.<sup>114</sup>

98. I note that there is not a single Plaintiff whose closest airport is served to a substantial degree by both United and Continental, *i.e.*, with at least ten percent of passengers. And for 22 of the Plaintiffs, *neither* United *nor* Continental serves the closest airport to a substantial degree. In other words, the Plaintiffs' closest airports (which are almost always the airports that they use most intensively according to documents produced by the Plaintiffs) are not ones that will experience an increase in concentration post-merger. As a result, even if one assumes there may be harm at particular concentrating airports, it is difficult to understand how these particular Plaintiffs would be harmed post-merger.

4. *Airport-pair markets*

99. The Complaint claims that after the merger the combined carriers will have a monopoly on the following seven routes based on airport pairs: San Francisco to Houston, San Francisco to Newark, Denver to Newark, Newark to Dulles, Houston to Dulles, Cleveland to Denver, and Cleveland to Dulles.<sup>115</sup> The Complaint further claims that this "will likely result in increases in fares and reduction of service" on these routes.<sup>116</sup> Although it is not entirely clear on what basis these routes are claimed to be monopolies post-merger, Plaintiffs appear to presume that airport

---

<sup>113</sup> *Complaint*, ¶ 6.

<sup>114</sup> I define a carrier as serving an airport if it has at least ten percent of the O&D passengers at that airport.

<sup>115</sup> *Complaint*, ¶ 81.

<sup>116</sup> *Complaint*, ¶ 81.

pairs characterize relevant antitrust markets without evidence or justification (and contradictory to their asserted national market), and that adverse competitive effects of the merger will arise no matter how much the merger does or does not concentrate these individual routes and no matter what competition is available from nearby airports.

100. Both of these presumptions are incorrect. Indeed, the Complaint recognizes that competition occurs between city pairs: “Relevant competition exists between airports ... For example, passengers traveling from San Francisco to Newark could consider airlines serving other airports at both end point – Oakland or San Jose instead of San Francisco and John F. Kennedy and La Guardia instead of Newark.”<sup>117</sup>

101. In four of the seven routes that the Complaint claims will be monopolies post-merger, there is non-stop competition from legacy carriers, and on all seven of the routes there is non-stop competition from LCCs that serve one end of the route or the other via an alternative airport, and that have built significant presence on the city pair. A complete analysis of potential adverse effects of the merger must account for competition, especially LCC competition, from these alternative airports.<sup>118</sup> That Plaintiffs ignore this competition does not make it any less important.

##### 5. *City-pair markets*

102. While discussing United and Continental’s overlapping airport-pair routes, Plaintiffs’ indicate that “[r]elevant competition exists between airports in which at least one of the end point cities of the two airlines exists. For example, passengers traveling from San Francisco to Newark could consider airlines serving other airports at both end point[s] – Oakland or San Jose instead of San Francisco and John F. Kennedy and La Guardia instead of Newark.”<sup>119</sup> I agree. Especially in a world where LCCs such as Southwest have adopted business models that rely on alternative airports, competition likely occurs at the city-pair level rather than the airport-pair level. If the proper relevant markets are city pairs, there are very few overlaps where the merger

---

<sup>117</sup> *Complaint*, ¶ 85.

<sup>118</sup> The U.S. Department of Transportation routinely uses a ten percent share as a threshold for defining a competitor in a city pair. (*See, e.g.*, “Domestic Airline Fares Consumer Report, Fourth Quarter 2009 Passenger and Fare Information,” U.S. Department of Transportation, Office of Aviation Analysis, May 2010.)

<sup>119</sup> *Complaint*, ¶ 85.

is likely to result in a significant reduction of competition, and consequently very low prospects for consumer harm. I will discuss non-stop overlaps first and then connecting overlaps.

103. United and Continental both provide non-stop service on just fifteen city pairs, shown in Exhibit 34. Even on these non-stop overlaps, sufficient competition will remain post-merger that the danger of anticompetitive effects from the merger is very low. Six of the non-stop overlaps will have four or more non-stop carriers following the merger.<sup>120</sup> I am unaware of evidence indicating that more than four non-stop carriers are needed in order to ensure competition on airline routes. On eight of the remaining nine routes, at least one LCC provides non-stop service and has substantial passenger shares, ranging up to 53.8 percent of passengers.<sup>121</sup> LCCs have obviously been successful on these city pairs and they are well known for their ability to discipline price.<sup>122</sup> That leaves one route of possible concern, Los Angeles — Kahului. However, Continental is a very recent entrant on this route and it is unlikely that the combined company could raise fares since three non-stop carriers will remain post-merger and there is connecting competition from Hawaiian Airlines.<sup>123</sup> Even if one believed that fares could be elevated on this route post-merger (and that competing carriers could not or would not defeat such a fare increase), I note that this route represents just .08 percent of all domestic passengers and 0.15 percent of all domestic passenger revenue. Any potential harm on this route is swamped by the benefits of the merger quantified in Section IV.

104. With respect to connections, I focus on overlaps where United and Continental individually have at least ten percent of passengers, combined have at least 40 percent of all passengers, and at least five passengers travel per day in each direction on the city pair. There

---

<sup>120</sup> These routes are Washington, DC – New York; Chicago – New York; Denver – New York; Honolulu – Los Angeles; Los Angeles – New York; and New York – San Francisco. On all of these routes except Honolulu – Los Angeles, two of the non-stop carriers are LCCs.

<sup>121</sup> These routes are Cleveland – Washington, DC; Washington, DC – Houston; Houston – Los Angeles; Houston – San Francisco; Cleveland – Denver; Chicago – Cleveland; and Chicago – Houston.

<sup>122</sup> Steven A. Morrison (2001), “Actual, Adjacent, and Potential Competition: Estimating the Full Effect of Southwest Airlines,” *Journal of Transport Economics and Policy*, 35(2):239-256; Austan Goolsbee and Chad Syverson (2008), “How do Incumbents Respond to the Threat of Entry? Evidence from the Major Airlines,” *Quarterly Journal of Economics*, 123(4): 1611-1633.

<sup>123</sup> In addition, Allegiant Air, a low-cost carrier with operations in Los Angeles, has announced that it will begin providing service to Hawaii in 2011. Allegiant has not announced which mainland-Hawaii routes it will fly. (Allegiant Air Press Release, “Allegiant Travel Company to Purchase Six Boeing 757 Aircraft: Company Plans to Say ‘Aloha’ to Hawaii,” available at <http://www.allegiantair.com/aaNews/aaNews20100305a.php>, site visited August 17, 2010.)

are 113 such city pairs, summarized in Exhibit 35. Even if fares were to increase on these routes (the likelihood of which would have to be assessed for each route individually), these routes represent only 0.7 percent of domestic passengers and 1.0 percent of domestic revenue. Any potential harms on these routes are *de minimis* compared to the hundreds of millions of dollars in consumer benefits that will flow to consumers from this merger.

6. *Plaintiffs' city-pair routes are largely unaffected by the merger*

105. Routes on which Plaintiffs travel are by and large not overlap routes on which a post-merger increase in concentration is likely to lead to any anticompetitive effects. Exhibit 33 offers details about the carriers serving each domestic route that Plaintiffs reported flying since 2005.<sup>124</sup> In the exhibit, I have designated the city pairs flown by each Plaintiff as overlap routes if they have characteristics that would suggest that the post-merger increase in concentration potentially could lead to anti-competitive effects, namely, they are non-stop overlaps, or they are connecting routes where both merging carriers are significant competitors (with at least ten percent of passengers), the merging carriers combined would have a substantial share of the market (combined share of at least 40 percent), and there are fewer than three other significant competitors.<sup>125</sup>

106. Of the 49 Plaintiffs, only seven report that they have flown on an overlap route, and of those seven, only one, Rosemary D'Augusta, reported more than one trip on an overlap route.<sup>126</sup> And on that route, New York-San Francisco, there will be four other non-stop competitors post-merger, including two LCCs (Virgin America and jetBlue) which have a combined 30 percent of passengers. With such substantial competing non-stop service, there is no prospect for harm on this route.

107. As another example, consider Michael Malaney, who reported 14 trips on 11 different city pairs. None of the city pairs on which Mr. Malaney reported traveling is an overlap city

---

<sup>124</sup> I have examined only Plaintiff's reported domestic travel because, as detailed in Section V.C, there can be no possibility of adverse competitive effects on international routes. I illustrate competitors using the most recent complete year of data available, 2009.

<sup>125</sup> Even for routes designated as overlap routes, one would need to examine other conditions on the route that could mitigate any anticompetitive merger effects, such as, recent or likely future entry, merger-related efficiencies, or the availability of other travel options such as train service.

<sup>126</sup> Therefore, based on historical flight activity, 42 of the 49 Plaintiffs have presented no reason to conclude that they face even the threat of competitive harm.

pair. On the route where United and Continental have the biggest combined share, Grand Rapids (GRR) – Los Angeles area (LA3), Continental is the currently the fourth largest competitor, and Delta will continue to be the largest carrier post-merger.

108. Similarly, Lee McCarthy reported 72 trips, on 27 unique routes, the most of any of the plaintiffs, and none of these routes is an overlap city pair. Furthermore, there are no overlaps routes from either of Mr. McCarthy’s two closest airports, Southwest Florida International (RSW) and Charlotte County (PGD). Notably both AirTran and jetBlue serve Southwest Florida International, and AirTran has a passenger share that is almost double the combined United and Continental share at that airport. Post-merger, the combined United and Continental will be only the fourth largest carrier at Mr. McCarthy’s home airport.

109. Indeed, examining the universe of routes that Plaintiffs claim to have flown illustrates clearly that Plaintiffs will not be adversely affected by this merger. Of the 267 unique city pairs Plaintiffs report having traveled since 2005, only seven (2.6 percent) are overlap routes.

## **VI. THE PLAINTIFFS’ ANALYSIS OF THE INDUSTRY AND THE MERGER IS WRONG IN MANY CASES AND MISLEADING IN OTHERS**

110. The Complaint states that “defendants now compete on hundreds of domestic connecting routes, where competition will be reduced or eliminated as a result of Defendants’ merger.”<sup>127</sup> This claim is difficult to evaluate fully because it is not well defined. However, as pointed out previously, applying the criteria for analyzing connecting competition used by DOJ, there are only 113 connecting city pairs where United and Continental overlap, all but three of which have at least one competitor in addition to United and Continental. Moreover, the Complaint provides no demonstration of competitive harm on these routes and ignores benefits that will accrue to passengers.

111. The Complaint discusses barriers to entry into the airline industry, claiming that there have been only two new “major” carriers in recent years, Southwest and jetBlue, and “that both of these entrants took substantial time to develop and still remain small factors in the market.”<sup>128</sup>

---

<sup>127</sup> *Complaint*, ¶ 92.

<sup>128</sup> *Complaint*, ¶ 96.

The Complaint goes on to claim that the “prospect of new entry is therefore unlikely to eliminate any of the anticompetitive effects that will eventuate from the defendants’ merger ...” These claims are inconsistent with the facts. Many carriers have entered (and exited) the airline industry as shown in Exhibit 8. The levels of entry and exit shown in Exhibit 8 are inconsistent with the presence of high barriers to entry. Moreover, the Complaint is incorrect when it states there have been only two “major” entrants in the airline industry in recent years. In addition to Southwest and jetBlue, AirTran, and Frontier are LCCs with annual operating revenues of over \$1 billion, which, under the Department of Transportation classification, would render them as “major” carriers.<sup>129</sup>

112. Likewise, the Complaint’s contention that Southwest and jetBlue, and implicitly other LCCs, are “small factors in the market” is not true. Southwest is the largest U.S. carrier in terms of total domestic O&D passengers, as well as the largest carrier in many large U.S. metropolitan areas, such as Los Angeles (26.8 percent of passengers), San Francisco (32.5 percent of passengers), and Washington, DC (23 percent of passengers), and is about as large in Chicago as either United or American (25.8 percent of passengers).<sup>130</sup> Similarly, jetBlue is one of the largest carriers in Boston (19.4 percent of passengers), and its 19.6 percent share of domestic O&D passengers in New York City is less than one percentage point below Continental’s 20.5 percent share.<sup>131</sup> Moreover, there is strong empirical evidence that these “major” entrants and other, smaller LCCs put competitive pressure on fares in many airport and city pairs.<sup>132</sup>

113. The Complaint fails to mention four additional newer entrants – Spirit, Virgin America, Allegiant, and Sun Country. Although these carriers have not yet reached “major” status as defined by the DOT, each is of sufficient size to add competitive pressures on numerous city

---

<sup>129</sup> [http://www.bts.gov/programs/airline\\_information/accounting\\_and\\_reporting\\_directives/number\\_291.html](http://www.bts.gov/programs/airline_information/accounting_and_reporting_directives/number_291.html). Source: U.S. DOT Form 41, Full Year 2009. Note that Frontier includes Midwest.

<sup>130</sup> Calculated using O&D passengers for 2009.

<sup>131</sup> Calculated using O&D passengers for 2009.

<sup>132</sup> See, e.g., Steven A. Morrison (2001), “Actual, Adjacent, and Potential Competition: Estimating the Full Effect of Southwest Airlines,” *Journal of Transport Economics and Policy* 32:239-256; Austen Goolsbee and Chad Syverson (2008), “How do Incumbents Respond to the Threat of Entry? Evidence from Major Airlines,” *Quarterly Journal of Economics* 123: 1611-1633.

pairs.<sup>133</sup> More important, these airlines have plans to grow, expand capacity and enter new city pairs. For example, Virgin America—which is headquartered in San Francisco—has recently placed an order that will vastly expand its fleet (from 28 aircraft today to 90 by 2016).<sup>134</sup> Virgin America already serves Los Angeles, San Francisco, and New York, three of the new United’s hubs, and in just three years of operation has grown to about 15 percent of passengers on the San Francisco-New York and Los Angeles-New York routes (see Exhibit 34). Likewise, Allegiant has recently begun taking delivery of several longer-range Boeing 757 aircraft that it plans to use on routes to and from Hawaii starting in early 2011.<sup>135</sup>

I declare under penalty of perjury that the foregoing is true and correct.



Executed on August 18, 2010  
Berkeley, California

---

<sup>133</sup> For example, Virgin America serves United/Continental hub-to-hub routes San Francisco-New York City and Los Angeles-New York City with multiple non-stop frequencies each day, which serves to constrain United’s and Continental’s prices on these city pairs.

<sup>134</sup> Virgin America Press Release, “Virgin America Spread its Wings: Airline plans order for 50 Airbus A320 Aircraft, with Options for an additional 20,” available at <http://www.virginamerica.com/press-release/2010/Virgin-America-Spreads-Its-Wings-Orders-60-New-Aircraft.html>, site visited August 17, 2010.

<sup>135</sup> Allegiant Air Press Release, “Allegiant Travel Company to Purchase Six Boeing 757 Aircraft: Company Plans to Say ‘Aloha’ to Hawaii,” available at <http://www.allegiantair.com/aaNews/aaNews20100305a.php>, site visited August 17, 2010.