

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

PATRICK BRADY, *et al.*,

Plaintiff,

v.

AIR LINE PILOTS ASSOCIATION, INTERNATIONAL,

Defendant.

Civil Action

No. 02-2917 (JEI)

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REPORT OF PROFESSOR KEVIN M. MURPHY

I. CREDENTIALS

1. My name is Kevin M. Murphy. I am the George J. Stigler Distinguished Service Professor of Economics in the Booth School of Business and the Department of Economics at the University of Chicago, where I have taught since 1983.
2. I earned a doctorate degree in economics from the University of Chicago in 1986. I received my bachelor's degree, also in economics, from the University of California, Los Angeles, in 1981.
3. At the University of Chicago, I teach economics in both the Booth School of Business and the Department of Economics. I teach graduate level courses in microeconomics, price theory, empirical labor economics, and the economics of public policy issues. In these courses, I cover a wide range of topics, including the incentives that motivate firms and individuals, the operation of markets, the determinants of market prices, and the impacts of regulation and the legal system. Most of my teaching focuses on two things: how to use the tools of economics to understand the behavior of individuals, firms and markets; and how to apply economic analysis to data. My focus in both research and teaching has been on integrating economic principles and empirical analysis.
4. I have authored or co-authored more than sixty-five articles in a variety of areas in economics. Those articles have been published in leading scholarly and professional journals, including the *American Economic Review*, the *Journal of Law and Economics*, and the *Journal of Political Economy*.
5. I am a Fellow of the Econometric Society and a member of the American Academy of Arts and Sciences. In 1997, I was awarded the John Bates Clark Medal, which the American Economic Association awarded once every two years to an outstanding American economist under the age of forty.¹ In 2005, I was named a MacArthur Fellow, an award that provides a

¹ The John Bates Clark Medal was awarded biennially until 2009, but it now is awarded annually. See, http://www.aeaweb.org/honors_awards/clark_medal.php.

five-year fellowship to individuals who show exceptional merit and promise for continued and enhanced creative work.

6. In addition to my position at the University of Chicago, I am also a Senior Consultant at Charles River Associates (“CRA”), a consulting firm that specializes in the application of economics to law and regulatory matters. I have consulted on a variety of antitrust, intellectual property and other matters involving economic and legal issues such as mergers, class certification, damages, labor practices, joint ventures, and allegations of anticompetitive exclusionary access, tying, price fixing, and price discrimination. In addition, I served as an economic consultant to the National Basketball Player’s Association during its negotiations with the National Basketball Association over the 2005 and 2011 Collective Bargaining Agreements.

7. I have submitted testimony in federal courts, the U.S. Senate and to state regulatory bodies, and I have submitted expert reports in numerous cases. I have testified on behalf of the U.S. Federal Trade Commission and I have consulted for the U.S. Department of Justice. A list of the reports I have filed and the testimony I have given over the past four years is provided in my CV, attached as Appendix A. CRA is being compensated at a rate of \$1,250 per hour for my work on this matter.

II. ASSIGNMENT AND SUMMARY OF OPINIONS

8. This litigation arises from a dispute over integration of the seniority lists of pilots for American Airlines (“American”) and Trans World Airlines, Inc. (“TWA”). After TWA agreed in early 2001 to an acquisition offer from American, union representatives of the two pilot groups negotiated over several months about how to integrate the two airlines’ pilots into a single seniority list. The parties were unable to reach an agreement. With the approval of American, the American pilots (represented by their union, the Allied Pilots Association (“APA”)) decided upon and implemented a merged seniority list known as Supplement CC.

9. A group of former TWA pilots subsequently sued the Air Line Pilots Association, International (“ALPA”), the labor union that represented the TWA pilots prior to the merger of American and TWA. Those pilots claimed that ALPA did not discharge its duty to fairly represent them during negotiations over the merged seniority list, and that they were injured as a

result.² At trial, a jury found that ALPA had “violate[d] its duty of fair representation to the TWA Pilots,” a violation that “directly cause[d] injury to some of the TWA Pilots.”³

10. Counsel for ALPA has asked me to review expert reports that Professor Henry Farber and Mr. Rikk Salamat submitted on behalf of Plaintiffs and to evaluate the methodology and conclusions offered in those reports regarding the damages allegedly owed to Plaintiffs as a result of ALPA’s violation of its duty of fair representation.⁴ Professor Farber generates hypothetical merged seniority lists, but he does not calculate damages. His hypothetical merged seniority lists are based on comparisons he draws to other airline mergers where, unlike here, the integration of the merging parties’ pilot seniority lists was decided by binding arbitration.⁵ Mr. Salamat offers several different estimates of alleged damages to TWA pilots based on various hypothetical seniority lists, including estimates based on Professor Farber’s proposed seniority lists.

11. Based on my review of Professor Farber’s and Mr. Salamat’s reports and deposition testimony, documents, and application of economic principles, I have concluded that neither of Plaintiffs’ experts has offered a reasonable or methodologically sound estimate of damages potentially resulting from the challenged conduct. (Appendix B is a list of the materials I considered.) The principal opinions I offer in this report, and as to which I will testify at trial if requested to do so, are the following:⁶

² Patrick Brady, et al., Plaintiffs v. Air Line Pilots Association, et al., Defendants, Second Amended Restated Complaint, e.g., at ¶109.

³ Jury Verdict in Patrick Brady, et al., Plaintiffs v. Air Line Pilots Association, et al., Defendants, July 13, 2011. For purposes of the analysis I provide in this report, I assume that ALPA breached its duty of fair representation to the TWA pilots because I understand that the jury reached that conclusion. However, I offer no opinion about whether or not the jury’s conclusion is correct.

⁴ Rikk M.T. Salamat, BA, MBA, *Damages in Brady et al vs. The Air Line Pilots Association*, October 12, 2012 (“Salamat Original Report”); *Furlough Damages in Brady et al vs. The Airline Pilots Association After Application of Set-Off*, April 30, 2013 (“Salamat Set-Off Report”); *Damages in Brady et al vs. The Air Line Pilots Association Supplementary Report on Damages Under the Farber Lists*, October 12, 2012 (“Salamat Farber Report”); *Damages in Brady et al vs. The Air Line Pilots Association Supplementary Report on Damages Under the Tannen List*, October 12, 2012 (“Salamat Tannen Report”); *Expert Report of Henry S. Farber*, October 12, 2012 (“Farber Report”).

⁵ Farber Report ¶56.

⁶ The opinions I express here are based on the information available to me as of the date of this report. I will continue to collect, review and analyze facts, data and information relevant to the opinions and issues I discuss in this report, and I will supplement my report as necessary to reflect such information.

12. **Opinion One:** Plaintiffs' basic allegation is that, but for ALPA's failure to meet its duty of fair representation, negotiations between the parties would have led to a different seniority list. Both of Plaintiffs' experts agree.⁷ Given that this alternative list would be the outcome of bargaining, any candidate list must be consistent with the economics principles of bargaining.

13. In evaluating potential outcomes of a negotiation, economics shows that it is necessary to take into account the gains the parties can obtain if they reach an agreement, as well as each party's expected outcome absent an agreement.⁸ The economics of bargaining demonstrates that the payoff that each party will obtain will depend upon the strength of its respective bargaining position. Accordingly, any hypothetical outcome of negotiations that fails to account for the benefits to both parties of reaching an agreement, relative to their expectations without an agreement, and fails to distribute those benefits consistent with the parties' relative bargaining positions, is inconsistent with economics. I use the principles of bargaining theory to analyze Supplement CC, as well as the hypothetical seniority lists proposed by Professor Farber and Mr. Salamat and the resulting damages calculated by Mr. Salamat.

14. **Opinion Two:** The economic theory of bargaining predicts that both parties would gain from the transaction and hence that each party would be better off than it would have been absent the transaction. This is consistent with the view expressed by the parties that the integrated seniority list should improve outcomes relative to each party's pre-transaction career expectations. Going into the transaction and the subsequent negotiations, the American pilots had much higher career expectations without an agreement than the TWA pilots had because the American pilots were working for a successful and historically profitable airline and could

⁷ Farber Report ¶9 and Salamat Original Report at 2.

⁸ See, for example, Nash, John F. "The bargaining problem," *Econometrica*, vol. 18, issue 2 (1950), pp. 155-162. The so-called "Nash bargaining solution" is for each player to get his disagreement payoff plus half of the surplus (the total available value minus the sum of disagreement payoffs). In its recent consideration of Comcast's acquisition of NBCU (see, Memorandum Opinion and Order, Applications of Comcast Corporation, General Electric Company, and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees, MB Docket No. 10-56, FCC 11-4 (released Jan. 20, 2011), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-4A1.pdf ("Comcast-NBCU Order")), the Federal Communications Commission ("FCC") adopted this framework, citing analysis that I had submitted on behalf of DIRECTV. In particular, the FCC noted that "to determine the likely magnitude of any post-transaction price changes, we adopt a Nash bargaining model originally proposed by ACA and DIRECTV and subsequently used by the Applicants in their second filing" (footnoting "DIRECTV – Murphy June Report at 31-32; ACA – Rogerson June Report at 19-20.38"). See, also, Jonathan B. Baker, "Comcast/NBCU: The FCC Provides a Roadmap for Vertical Merger Analysis," 25 *Antitrust* 36 (2011) ("Baker (2011)") ("the Nash bargaining model is nevertheless commonly thought to provide a reasonable basis for predicting the bargaining outcome").

expect continued employment, advancement and growth. TWA, on the other hand, was financially failing and on the verge of liquidation.⁹ Its pilots had no reasonable prospects of remaining employed at TWA or a successor airline absent an acquisition by American.¹⁰ Thus, absent the merger, the TWA pilots could expect to be looking for work at another airline where, given prevailing industry practices, they would have been placed at the bottom of the seniority scale, assuming they could find work at all. The disparity in career expectations created a disparity in the two parties' fallback payoffs. That disparity between the parties was heightened by the fact that the APA's collective bargaining agreement with American effectively gave the American pilots the right to impose a seniority list and in particular to unilaterally staple the TWA pilots to the bottom of the integrated seniority list, if they decided to do so. The ability to unilaterally set the terms of the seniority list enhanced the American pilots' bargaining power. Given the American pilots' superior bargaining power, under bargaining theory we would expect, all else equal, that the American pilots would receive a greater share of the gains than the TWA pilots.

15. **Opinion Three:** The TWA pilots received significant benefits from the transaction in the form of higher pay and the prospect of continued employment at an ongoing airline, irrespective of where they were placed on the merged seniority list. In contrast, the American pilots received no direct benefits from the transaction that were independent of the seniority list adopted. The only benefits that the American pilots stood to gain from the transaction were benefits that flowed from the prospect of TWA pilots being added to the seniority list in a way that improved the relative position of American pilots. As a result, economics predicts that any seniority list that would emerge from bargaining would favor the American pilots (otherwise the American pilots would receive no benefits from the transaction). Because the TWA pilots preserved their opportunities to fly TWA planes through other provisions in Supplement CC (in particular, the St. Louis fence), the American pilots did not gain additional aircraft or promotional opportunities. Thus, the American pilots benefited only through the increased insurance against being furloughed that resulted from placing some number of TWA pilots below them on the merged seniority list.

⁹ *Expert Report of James S. Feltman, March 15, 2013* ("Feltman Report") at 7-8, 25, 44; *Expert Report of Michael E. Levine, March 15, 2013* ("Levine Report") at 9, 24-25.

¹⁰ Feltman Report at 33-34. Levine Report at 23-24.

16. **Opinion Four:** The application of bargaining theory shows that Supplement CC reflects a distribution of the expected benefits of the transaction that is consistent with the relative bargaining positions of the two pilot groups and their relative pre-transaction expectations. The TWA pilots already obtained substantial benefits relative to their previous position and opportunities at TWA when discussion of the seniority list integration began, including continued employment with a more financially secure airline as well as higher pay. I estimate that, under Supplement CC, the TWA pilots received on a prospective basis about half the total gains received by the two sets of pilots from the transaction when I exclude benefits they received from the pay increase, and about 60 percent of the benefits from the transaction when their benefits from the pay increase are taken into account. On a per pilot basis, the TWA pilots fared even better, and received an even greater share of the gains than the average American Airlines pilot received.

17. **Opinion Five:** Neither of Plaintiffs' experts applies an economic model of bargaining to produce or to evaluate the seniority lists that he posits would have resulted had ALPA not breached its duty of fair representation. Their calculations of potential damages to the TWA pilots are uninformative because they fail to account for the impact that TWA's financial distress, the other benefits received by the TWA pilots and the pre-transaction expectations of the American pilots and TWA pilots would have had on the negotiations. Indeed, they fail to even analyze the impact of their proposed lists on the American pilots. As a result, Plaintiffs' experts generate hypothetical seniority lists – on the basis of which Mr. Salamat purports to calculate damages owed to Plaintiffs – which on a prospective basis (i.e., when evaluated from the perspective of the pilot groups when they were negotiating) made the American pilots worse off than they would have been absent the transaction. This is inconsistent with bargaining theory. Even viewed with hindsight (i.e., using information about the subsequent downturn in American's demand for pilots that was not known at the time of the negotiations), the TWA pilots received the majority of the gains from the transaction, which would not be expected given the American pilots' ability under their contract to determine the seniority list unilaterally. Thus, I conclude that none of Plaintiffs' experts' hypothetical seniority lists reflects a reasonably achievable outcome of the negotiations between the TWA pilots and the American pilots over the seniority integration.

18. **Opinion Six:** In addition to being inconsistent with the predictions of bargaining theory, Plaintiffs' experts' opinions suffer from numerous other empirical and methodological flaws that render them unreliable. These flaws include, among other things: arbitrary assumptions about the probability that any hypothetical actions taken by ALPA would have affected the outcome of negotiations between the TWA and American pilots over a merged seniority list; misplaced reliance on arbitrated decisions when there was no reasonable prospect of arbitration in this case; and ignoring differences in the American and TWA fleets, which had a significant impact on the pilots' respective career expectations absent the transaction. Plaintiffs' experts' opinions also are inconsistent with and contradict each other.

III. BACKGROUND

A. TWA's Financial History

19. American's proposal to acquire certain TWA assets and to retain TWA's pilots, and the subsequent seniority list merger of the two airlines' pilots, occurred at a time when TWA was in dire financial condition and American was profitable and growing.¹¹ TWA went through bankruptcies in 1992 and 1995. After the 1992 bankruptcy, the TWA pilots agreed to a 15 percent reduction in pay rates, but the airline remained unprofitable.¹² TWA undertook a financial and operational restructuring again in 1995. Employees agreed then to a variety of productivity measures, including reduced vacation and sick time and giving up the right to "snap back" the 15 percent compensation concession provided during the first bankruptcy.¹³

20. As explained in reports submitted in the present case on behalf of ALPA by James S. Feltman and Michael E. Levine, TWA was not a financially viable airline by the end of 2000.¹⁴ Rather, it was "irremediably structurally unsound and on the verge of liquidation."¹⁵ TWA relied on a single hub, St. Louis, which had been declining as a commercial business center. Other problems contributing to its financial distress included its commitment to the Karabu ticket

¹¹ *Expert Report of Richard R. Kasher, Esq., March 15, 2013* ("Kasher Report"); Feltman Report at 7-8, 25, 44. In its 2000 Annual Report, American Airlines' parent company reported net earnings of \$752 million, crediting "robust demand for air travel and for air cargo services, as well as product and service enhancements, prudent capacity growth and an effective fuel-hedging program." (AMR Corp. 2000 Annual Report, at 1).

¹² Compton Dep. 1/18/2013 at 17:9-13;20:1-21:10.

¹³ Compton Dep. 1/18/2013 at 21:11-22:19.

¹⁴ Feltman Report at 4-5; Levine Report at 9, 24-25.

¹⁵ Levine Report at 6.

program, under which it collected 45 percent less revenue than competitors for comparable fares; the lack of regional jets and thus feeder traffic to the St. Louis hub; and competition from Southwest (a low-cost carrier (“LCC”)), which had a significant and growing presence in St. Louis.¹⁶ TWA pursued a variety of strategies to improve its financial position and stave off bankruptcy, including engaging in discussions with potential merger partners and investigating potential standalone plans.¹⁷ However, during 2000 and early 2001, no airline other than American expressed interest in acquiring TWA’s aircraft and in providing ongoing employment for the TWA pilots.¹⁸ Some other airlines explored the possibility of purchasing TWA gates and landing slots.¹⁹ But even if these discussions had resulted in a concrete proposal, which I understand they did not, the piecemeal acquisition of such assets would not have provided ongoing employment for the TWA pilots.²⁰

B. American Agrees to Acquire TWA

21. On January 9, 2001, American and TWA entered into an Asset Purchase Agreement under which American agreed to purchase out of bankruptcy certain TWA assets and to provide employment for TWA’s unionized employees, including its pilots, at wages and benefits comparable to those of American’s unionized employees. As required by the agreement, TWA filed for bankruptcy on January 10, 2001. According to the bankruptcy court, “TWA’s approximate cash balance on January 10, 2001 was \$20-30 million and TWA needed \$40 million to fund its operations the next day.”²¹ American Airlines agreed to provide approximately \$200 million in debtor-in-possession (“DIP”) financing to address TWA’s immediate liquidity crisis and allow it to operate until the transaction with American Airlines closed. TWA’s CFO Michael Palumbo stated that TWA “didn’t have an ability to pay any material obligation that [the company] had” without this DIP financing.²²

22. On January 12, 2001, the TWA ALPA Master Executive Council (“TWA MEC”) released a statement that, if the deal with American did not close for some reason, “we face the

¹⁶ Palumbo Dep. 1/21/2013 at 49:12-21.

¹⁷ Compton Dep. 1/18/2013 at 32:2-33:4; Palumbo Dep. 1/21/2013 at 96:20-99:14.

¹⁸ Feltman Report at 33-34. Levine Report at 23-24.

¹⁹ Compton Dep. 1/18/2013 at 32:17-33:4; 151:23-152:1. Resnick Dep. 1/16/2013 at 20:22-23:16.

²⁰ Compton Dep. 1/18/2013 at 151:23-152:8.

²¹ April 2, 2001 letter to bankruptcy counsel from the Honorable Peter Walsh ¶17.

²² Palumbo Dep. 1/21/2013 at 117:21-22.

probability that all 20,000 jobs at TWA will be lost.”²³ Mike Day, who was lead negotiator for the TWA MEC in its negotiations over the merged pilot seniority list with the American pilots’ union, the APA, said, “[w]e were all excited about [the potential transaction with American Airlines]. We felt that American was one of the biggest carriers out there and it would be a pretty good match-up.”²⁴ Similarly, TWA CEO Bill Compton testified that he thought the American Airlines transaction was “the best possible outcome for the TWA employees . . . [because] if we didn’t do the American deal, every TWA employee was going to lose their job. Every TWA retiree was going to lose all their benefits.”²⁵

23. As part of its agreement to acquire certain TWA assets, American Airlines required the TWA pilots to waive certain contractual protections in their collective bargaining agreement (“CBA”). In particular, Section 10.2 of the Asset Purchase Agreement required that “[p]rior to [c]losing, TWA shall amend all existing Collective Bargaining Agreements . . . to provide that . . . scope, successorship, and benefits provisions of the Collective Bargaining Agreements are not applicable to or being assumed by [American Airlines].”²⁶ Jeffrey Brundage, head of labor relations at American Airlines, testified that the “transaction would not have gone forward” without the elimination of the scope clause in the TWA pilots’ collective bargaining agreement,²⁷ and former American Airlines CEO Donald Carty likewise testified that American “would not have proceeded with the transaction” with TWA without a scope waiver.²⁸

C. Pilot Integration Negotiations and Supplement CC

24. Representatives of the American and TWA pilots began negotiations over the merged pilot seniority list on March 1, 2001. The TWA MEC’s Merger Committee negotiated on behalf of the TWA pilots. The American pilots were represented by the APA’s M&A Committee.

²³ As cited in Position Statement of APA, p. 16, at ALPA 015299. *See also* TWA MEC Communications Committee Update on January 12, 2001 at ALPA 004361.

²⁴ Day Dep. 5/02/2013 at 6:17-20. Industry observers offered similar assessments of the potential transaction with American Airlines. For example, Senator Bond noted at a 2001 hearing that “[a]lmost everyone involved with TWA looks at the acquisition . . . as the knight in shining armor riding in on his white horse rescuing the damsel in distress . . .” Senate Hearing, *Airline Consolidation: Has It Gone Too Far?* February 7, 2001 at 4.

²⁵ Compton Dep. 1/18/2013 at 47:10-16.

²⁶ Asset Purchase Agreement, p. 41 (ALPA 013341).

²⁷ Brundage Dep. 10/23/12 at 39:22-40:1.

²⁸ Carty Dep. 10/15/2012 at 33:15-16.

25. During the course of negotiations, the two union committees exchanged numerous proposals and counterproposals and used the services of an independent facilitator. One principle on which they agreed was that the merged seniority list should protect the pre-transaction career expectations of both pilot groups.²⁹ Both pilot groups also offered proposals in which the top positions on the merged seniority list would be reserved for American Airlines pilots who flew equipment that TWA did not operate, and some TWA pilots would be placed at the bottom of the merged seniority list (though still above any American new-hires).³⁰

26. Despite negotiations over several months, representatives of the two pilot groups did not agree on a merged seniority list. On November 7, 2001, the APA Board of Directors unilaterally approved a merged seniority list, with conditions and restrictions, called Supplement CC, which was accepted by American Airlines. Supplement CC, which took effect in April 2002, provided that:

- a) The top 2,596 seniority positions on the merged list would consist of American pilots who were eligible to fly large wide-body aircraft. As TWA did not have any large wide-body aircraft in its fleet at the time of the acquisition, the TWA pilots had no prospect of flying these types of planes prior to the acquisition.
- b) Starting after American pilot number 2,596, the 1,095 most senior TWA pilots (based on seniority as of April 10, 2001) were merged into the American pilots' existing seniority list at a ratio of approximately one TWA pilot to 8.1763 American pilots.
- c) Next, the remaining 1,242 TWA pilots were placed in seniority order after the last pilot of the merged section of the list (pilot Camus, who became pilot #12,644 on the integrated seniority list).

²⁹ July 18, 2001 letter from Ed White to Mike Day, p. 2 (ALPA 001809) (noting that “[a]t our first meeting in February 2001, [the TWA MEC Merger Committee] emphasized that unity, fairness and equity, and efficiency will be served by a seniority integration which . . . preserves career expectations”).

³⁰ August 17, 2001 letter from Mike Day to Ed White, APA (J-327) (“We have offered a restriction to reflect the fact that TWA pilots did not have an expectation of B777 flying before the transaction.”). *See also* October 23, 2001 letter from the TWA MEC to Darrah and Brundage accepting the terms of the last APA proposal on October 20, 2001 with certain additional conditions (ALPA 022075). While this was not the final agreement, the TWA MEC did agree to a proposal that included a top staple of AA pilots and a bottom staple of TWA pilots (ALPA 008905).

d) Finally, pilots hired by American after April 10, 2001 who had been assigned to airline flying duty as of October 1, 2001 were placed below the most junior TWA pilot.³¹

27. Supplement CC also provided for “two sets of ‘fence’ provisions...to assure that the seniority list fairly operates to reflect the AA and TWA pilots’ career paths as of April 10, 2001.”³² One fence limited the TWA pilots’ ability to bid for the large wide-body aircraft that only American flew prior to the transaction and that the TWA pilots would have had no opportunity to fly while they were at TWA.³³ The other, the St. Louis fence, prevented American pilots – who would not have had access to the opportunities in St. Louis that the TWA pilots had prior to the merger – from “reaping an injurious windfall by gaining advancement opportunities that belonged to the TWA pilots prior to the transaction.”³⁴ As the APA’s Mergers & Acquisitions Committee stated, the “fences in Supplement CC . . . recognize . . . that the flying representing the TWA pilots’ pre-transaction career path is now reflected first and foremost in St. Louis.”³⁵ The Committee stated that the fences existed “to protect the TWA pilots’ pre-transaction career path, including narrow-body and small wide-body Captain jobs attributable to aircraft that TWA operated prior to the transaction, principally in the St. Louis domicile.”³⁶ According to the Committee, the fences also “assure that the expectation of every AA pilot to fly the largest aircraft in the fleet – through the last pilot hired before April 10, 2001 – is not adversely affected by the integration of the seniority list.”³⁷ Further, the Committee stated that the fences “preserve[d] the TWA pilots’ opportunities to upgrade within the St. Louis domicile, and to continue to have some of the quality of life . . . that they had within the separate TWA operation, notwithstanding their relative placement on the integrated seniority list.”³⁸

³¹ APA’s Mergers & Acquisitions Committee, “Summary of Supplement CC,” December 14, 2001 (ALPA 008746-781, -757-758) (“Summary of Supplement CC”).

³² Summary of Supplement CC, at 20 (ALPA 008765).

³³ Summary of Supplement CC, at 20-21 (ALPA 008765-66).

³⁴ Summary of Supplement CC, at 22 (ALPA 008767). Mr. Salamat assumes in his analysis that “the Supplement CC protections would provide a number of guaranteed captain positions. If a pilot is in a protected position, then increasing his seniority may not increase his income....[He identified] pilots in protected positions and assume[d] zero impact in the months in which they were holding positions out of seniority order” (Salamat Original Report at 43), which likely is based on operation of the St. Louis fence.

³⁵ Summary of Supplement CC, at 23 (ALPA 008768).

³⁶ Summary of Supplement CC, at 18, 20 (ALPA 008763, 008765).

³⁷ Summary of Supplement CC, at 21 (ALPA 008766).

³⁸ Summary of Supplement CC, at 23 (ALPA 008767).

28. American's acquisition of TWA's assets and the implementation of Supplement CC provided the TWA pilots with significant gains. First, the TWA pilots gained job security and higher pay. Absent the transaction, the TWA pilots would have no reasonable expectation of either, assuming that TWA was on the verge of liquidation and its pilots therefore would have lost their jobs.³⁹ Second, about half of the TWA pilot group was merged on the seniority list with American pilots. Third, even though the other half of the TWA pilots was placed below the legacy American pilot group on the seniority list, all of the TWA pilots were placed above the pilots hired by American after the transaction closed. Fourth, Supplement CC provided for a St. Louis fence that effectively created an "airline within an airline" based in TWA's St. Louis hub. This prevented the American pilots from using their higher seniority to bid for jobs in St. Louis. Thus, the continued employment and the fence together protected career expectations of the TWA pilots in a way that they could not have anticipated without the transaction. If TWA had ceased operations, then all of its pilots would have been forced to start at the bottom of the seniority list of any airline with which they could have obtained employment regardless of the number of years of flying experience accrued at TWA, or worse yet, be without a job.

D. Operations of the Merged Airline

29. TWA contributed planes and related jobs in addition to the 2,337 pilots that TWA brought to the transaction, almost all of whom were on active duty at the time of the acquisition. Exhibit 1 shows the expected fleet composition for the merged firm as of December 31, 2001. TWA brought mostly narrow-body planes and substantially fewer small wide-body planes that American would operate after the transaction (American did not keep and operate all of the planes TWA had at the time of the transaction).⁴⁰ TWA brought no large wide-body planes to the transaction. As shown in the Exhibit, TWA thus disproportionately contributed smaller planes to the merged carrier. American also planned to continue operating its existing planes and taking delivery of planes that American had on order.⁴¹

³⁹ Feltman Report at 33-34; Levine Report at 23-24.

⁴⁰ Hefley Merger Notes, August 20, 2001, at ALPA 004804 ("In our view, you brought 103 md80s, 9 767s, 27 757's, and 30 717's. That should equal 169. That's as of the first quarter of next year. . ." (Ed White APA M&A Committee speaking)); American Airlines Annual Report, 2001.

⁴¹ Summary of Supplement CC, at ALPA 008758 ("American was the acquiring carrier. It was a large, global airline in sound financial condition, which was growing and had extensive orders for additional wide-body aircraft").

30. By evaluating the fleet composition expected for the merged carrier as of December 31, 2001 and the aircraft that TWA brought to the merged company (see Exhibit 1), as well as the relevant aircraft manning rates⁴² (i.e., pilots per plane) and work rules⁴³ (see Exhibit 2), I determined that the merged carrier initially expanded by 169 planes and 2,080 pilot jobs as a result of TWA's contributed aircraft (see Exhibits 1 and 3)⁴⁴.

IV. THE ECONOMICS OF BARGAINING IS THE PROPER ECONOMIC FRAMEWORK FOR EVALUATING PLAINTIFFS' CLAIMS AND THEIR EXPERTS' HYPOTHETICAL SENIORITY LISTS

31. Economic damages from any breach by ALPA are equal to the difference between the value to the TWA pilots of (i) the transaction under Supplement CC and (ii) the value the TWA pilots would have received if ALPA had met its duty of fair representation. In order to quantify this difference, if any, it first is necessary to evaluate how the seniority list would have differed from Supplement CC in the but-for world where ALPA did not breach its duty. This requires economic analysis of the parties' incentives to reach a mutually beneficial agreement. It then is necessary to quantify how much the TWA pilots would have benefited under a proposed seniority list.

32. The natural economic framework for evaluating whether the seniority integration alternatives proposed by Plaintiffs' experts reflect reasonable potential outcomes of negotiations between the parties is the economics of bargaining.⁴⁵ The economics of bargaining reflects the

⁴² Supplement CC assumed average pre-transaction American manning rates. (Summary of Supplement CC, p. 15. (ALPA 008760) Therefore, I used the same rates to determine the number of jobs TWA brought to the merged carrier.

⁴³ Summary of Supplement CC, at ALPA 008760; Ed White's August 20, 2001 letter to Rolf Valtin with American Airlines and TWA manning rates tables attached, ALPA 030054-59; Hefley Merger Notes, February 22, 2001, at ALPA 024945 (according to the notes, Ed White of APA presents staffing numbers and Gary Flor, TWA MEC member, comments "We need a little time to compare ratios. The numbers can be skewed. Flying these aircraft under your workrules produces more seats").

⁴⁴ TWA is given credit for CKA/SUPV jobs in this analysis based on their plane share.

⁴⁵ As noted above, this framework recently was applied by the FCC to analyze the impact on programming costs of Comcast's acquisition of NBCU (*see*, Baker (2011) at 40 (discussing "Bargaining Analysis of Programming Prices"): "The Commission assessed the likely magnitude of price increases arising from the vertical aspect of the transaction by calibrating an economic model of the bargaining between the joint venture and a rival MVPD over the price of programming. Its analysis relied on the Nash bargaining model. The Nash bargaining model explains the division of the gains from negotiation (the bargaining surplus) in terms of each party's best alternative to a negotiated agreement (BATNA) and the parties' relative patience or bargaining skill" (footnotes omitted). For an application of bargaining theory to understand outcomes of negotiations over retransmission consent fees paid by multichannel video programming distributors for carriage of local broadcast stations, *see* Katz et al., "An Economic

constraints placed on negotiated agreements – namely that each party’s expectations, the range of options available to the parties and what happens in the event the parties cannot reach agreement are important determinants of the negotiated outcome.⁴⁶

33. Any proposed merged seniority list acceptable to both groups of pilots (and thus achievable through negotiation) must satisfy certain fundamental economic conditions of negotiated agreements. This approach is consistent with Mr. Salamat’s view that ALPA’s alleged failure to take certain actions affected “the dynamics of the negotiation.”⁴⁷ He testified that “I’m not concerned at all with the – with [what] the likely outcome of having done these are except to the extent that it would have changed *the dynamics of the negotiation*. So now you are negotiating with someone whose – whose national union is fighting to protect their scope.”⁴⁸ According to Mr. Salamat, “if ALPA is fighting for the TWA pilots and attempting to either force a situation where the APA has to negotiate or, in general, just standing behind their pilots and fighting on their behalf, that would change the APA’s behavior in that they would then be dealing with a stronger negotiating partner who had other options available to them.”⁴⁹ Thus, it is appropriate – and would be appropriate even if he did not have this view – to evaluate Mr. Salamat’s opinions concerning damages under the framework of the economics of negotiated agreements or bargaining.

A. The Economics of Bargaining Explains Negotiated Outcomes

34. The incentive for two parties to reach an agreement is provided by the opportunity for both to benefit by sharing the resulting value created and saving the costs of continued negotiations.⁵⁰ The acquisition by American of the TWA assets was expected to create net benefits for the combined pilot group by providing additional opportunities for pilots that would

Analysis of Consumer Harm from the Current Retransmission Consent Regime,” November 12, 2009 (a study commissioned by the National Cable & Telecommunications Association, DIRECTV, and DISH Network).

⁴⁶ See, for example, Max H. Bazerman and Margaret A. Neale, *Negotiating Rationally* (1992). In the literature, a concept similar to the fallback payoff is often referred to as the Best Alternative to Negotiated Agreement (“BATNA”), a term introduced by Roger Fisher and William Ury in their book *Getting to Yes*, which was first published in 1981 (most recent edition published in 2011).

⁴⁷ Salamat Dep. 1/29/2013 at 198:20-21.

⁴⁸ Salamat Dep. 1/29/2013 at 198:18-23 (emphasis added).

⁴⁹ Salamat Dep. 1/29/2013 at 230:11-18.

⁵⁰ Nash, John F., “The bargaining problem.” *Econometrica*, vol. 18, issue 2 (1950), pp. 155-162 and Binmore, Ken, Ariel Rubinstein and Asher Wolinksy, “The Nash Bargaining Solution in Economic Modeling,” 17 *RAND Journal of Economics* (1986), pp. 176-188.

not have been available without the merger and by potentially improving the career expectations of both pilot groups.⁵¹

35. I use principles of bargaining to evaluate alternative seniority lists proposed by Plaintiffs' experts, as well as Supplement CC. In order to evaluate the outcome under the proposed and actual seniority lists, I examine three factors: (1) the "fallback payoffs" of each party – or each party's position if no agreement is reached; (2) the total amount of value created by agreement; and (3) the relative bargaining power or leverage of the two parties. Economic principles dictate the bounds of any possible negotiated agreement between two parties and inform where within those bounds the parties likely would settle.

36. I apply this framework to evaluate Plaintiffs' claims that ALPA's breach of the duty of fair representation resulted in an unreasonable seniority list. The bargaining would have occurred, by necessity, at a time when the future of American and the airline industry was uncertain. Economics informs us that both parties would make their best assessment of how they would do given possible future outcomes in the face of uncertainty, and they would bargain based on those expectations. Thus, it is proper to evaluate the reasonableness of potential bargaining outcomes using information that was knowable at the time that the bargaining would have occurred, while taking into account the uncertainty facing the parties. The reasonableness of a hypothetical bargaining outcome cannot be evaluated directly using information that the parties could not have known at the time.

1. The Pilots' Fallback Payoffs

37. The fallback payoffs at the time that American was negotiating to acquire the TWA assets were based on how each would have fared if American had not acquired TWA. This same view was expressed during bargaining over the seniority list with both sides referring to "pre-transaction career expectations" as the relevant benchmark for measuring each group's gain from the transaction. The concept of preserving the pre-transaction career expectations or "pre-merger career paths" of both pilot groups was a guiding principle in the development of Supplement

⁵¹ The AA analyst presentation states that the transaction will "create[] growth opportunities for employees" (ALPA 018772) and that "[r]evenue synergies are expected to generate \$400-\$500 million annually on a steady state basis" (ALPA 018785).

CC.⁵² As the APA stated at the time: “Throughout this entire process, the M&A Committee, under the direction of the APA Board of Directors, has operated under one central principle: to protect the pre-merger career paths of all pilots concerned with the integration.”⁵³ And Plaintiffs’ experts acknowledge that seniority integrations typically attempt to preserve the pre-transaction career expectations of each pilot group⁵⁴—even though, as discussed below, both Mr. Salamat and Professor Farber propose hypothetical seniority lists that violate this principle.

38. In early 2001, American was a successful and profitable airline.⁵⁵ Any proposed seniority list that would make the American pilots worse off than they expected to be without the TWA asset acquisition is unreasonable and inconsistent with the economics of bargaining because the American pilots would never be expected to agree to such a list. This is particularly true given that the TWA pilots stood to benefit substantially from the transaction, and that the American pilots had the contractual right to unilaterally staple the TWA pilots to the bottom of the merged seniority list.

⁵² “Strictly applied, Section 13 of the Green Book would result in the TWA pilots accumulating seniority from the time they first are assigned to revenue flying duty with American, whenever that time might come.” APA Summary of Supplement CC, at ALPA 008748. However, as Ed White testified, “[i]nstead, [the] APA strove for a seniority integration that fairly reflected each group’s pre-transaction career expectations” and “[t]he seniority integration was not pulled from a hat; nor was it a thinly veiled attempt to disadvantage the TWA pilots. It was, in fact, based on extensive analysis of the two carriers and the pilot groups involved, including a complex and carefully developed ‘career path’ methodology - derived substantially from a methodology proposed by the TWA pilots themselves—designed to reflect accurately each group’s career expectations at the time of the asset purchase” (Written Testimony of Captain Edwin C. White, Jr. Before the Committee on Health, Education, Labor and Pensions United States Senate Hearing on the TWA/American Airlines Workforce Integration June 12, 2003 (“White Testimony”), p. 4.)

⁵³ Summary of Supplement CC at 3 (ALPA 008748); see also discussion memorialized in Hefley notes (“Jim B: So the challenge is to construct an integrated list that does not impede a pilots progression through the list. The other part of it is how do you provide for the TWA pilots’ expectancies in the process? Ed [White]: You have to look at the pre-merger expectations and take them into account”) (ALPA 004902).

⁵⁴ “Differing career opportunities, however, have certainly played a role in the construction of lists. The amount of ‘premium’ work, such as wide-body captaincies, aircraft on order, airline growth and quality of work all play some role in virtually every merger and it is not uncommon for one party to argue that its pilots should be granted a seniority premium to reflect the ‘better opportunities’ they bring and that the other party will have a chance to share in” (Salamat Original Report at 30); when asked at his deposition whether he had “seen in your work that, in evaluating the fairness of seniority integration lists that people look to, whether the integrated list preserves the pre-transaction career expectations of each pilot group?” Mr. Salamat responded that “That – that would be common in – in mergers that people do that, yes” (Salamat Dep. 1/29/13 at 73:9-15); “Arbitrators commonly consider a number of factors. One constant is that they attempt to preserve the pre-transaction relative ranks of the pilots on the pre-transaction seniority lists” (Farber Report ¶27).

⁵⁵ “AMR’s net earnings in 2000 were \$813 million;” “AMR’s net earnings in 1999 were \$985 million” (AMR Corporation Form 10-K at 10). American noted, however, that it “is cautious in its outlook for 2001. On the revenue front, the primary concern is a slowing U.S. economy. American’s strong revenue performance the past several years was marked by a growing U.S. economy coupled with a modest increase in industry capacity. Our revenue performance in 2001 will be dictated by how well the industry manages that relationship going forward” (AMR 2000 10-K at 24).

39. In contrast, TWA was in severe financial trouble when it agreed to the asset acquisition by American. Other ALPA experts, as well as former TWA management, have opined that as of late 2000, TWA faced imminent liquidation. It was on the verge of running out of cash to keep operating, and did not have any other acquisition offer for all or part of the airline (as an operating business) or a financing proposal that would have enabled it to remain independent.⁵⁶ It thus is reasonable to assume that, absent the transaction, TWA would have liquidated, and its pilots would have lost their jobs. If the pilots found employment at other airlines, they likely would have earned less than at American and been at the bottom of the seniority list, because airline/union collective bargaining agreements typically required that new hires be placed at the bottom of the seniority list, regardless of prior flying experience.⁵⁷

40. At the time the pilot groups were negotiating the seniority integration, the TWA pilots' bargaining position also reflected the fact that they could not force the American pilots to submit to arbitration, given the APA's collective bargaining agreement with American. (This means, as discussed below, that Professor Farber's and Mr. Salamat's focus on comparing Supplement CC to arbitrators' seniority integration decisions in other transactions is misguided.)

41. For purposes of my analysis, I take the fallback payoff for the American pilots to be their pre-transaction career expectations. That is the baseline from which they started the negotiations before the transaction had closed, and they had no incentive to take less than that amount after the transaction had closed.

42. For the TWA pilots, the analysis is more complex because their fallback payoff likely evolved over time. At the time the transaction was negotiated and agreed upon by TWA and American, and the TWA pilots agreed to waive scope as required by the Asset Purchase Agreement, the fallback payoff for the TWA pilots, like that for the American pilots, was based on their pre-transaction career expectations. For the TWA pilots, this reflected the consequences of liquidation of their airline. Once the transaction between American and TWA had closed and

⁵⁶ Feltman Report at 4-5; Levine Report at 6-7; Compton Dep. 1/18/2013 at 25:16-23; "Effects of the American Airlines/TWA Transaction and Other Airline Industry Consolidation on Competition and the Consumer," Senate Committee on Commerce, Science and Transportation, February 1, 2001, Prepared Statement Donald Carty, Chairman, President, and CEO, American Airlines, pp. 20-22.

⁵⁷ "Virtually without exception, union contracts in the airline industry provide that a new employee, even one with considerable seniority at a prior employer, starts over at the bottom of the new employer's seniority list" (White Testimony, p. 3).

American had committed to doing the deal, the fallback payoff for the TWA pilots likely improved, because now their worst possible outcome was to be stapled at the bottom of the merged airline's seniority list. That improvement in fallback payoff was obtained at the cost of agreeing to waive scope. In contrast, the American pilots retained the protections in their CBA that effectively allowed them to determine the integrated seniority list unilaterally.

43. For purposes of my analysis, I consider two alternatives for the TWA pilots' fallback payoff. In one, I assume that the fallback payoff for the TWA pilots is determined by their pre-transaction career expectations. I approximate this by using the value the TWA pilots would receive if they were stapled at the bottom of the American seniority list and did not receive the benefit of American's higher level of pay (i.e., they continue to receive the pay rates I estimate they received at TWA).⁵⁸ In the second, I assume the same placement at the bottom of the seniority list but assume that the TWA pilots would receive American pay rates. This more closely approximates the worst-case scenario for the TWA pilots after the transaction had closed.

44. American's decision to go forward with the transaction, which generated the higher fallback payoff for the TWA pilots, also increased further the American pilots' bargaining power in the seniority negotiations by requiring the TWA pilots to waive scope, thereby giving the American pilots the right to impose a seniority list.

2. The Value to be Shared between the Parties

45. The second input needed to understand the likely outcome of bargaining between the two pilot groups is the amount of value available for them to share if they reach agreement.

46. American's acquisition of TWA's assets allowed TWA's operations (including pilots) to continue,⁵⁹ which provided many benefits to the TWA pilots. First, they were able to keep their jobs and continue flying. Second, whether merged with the American pilots or even stapled to the bottom of American's seniority list, they maintained at least some seniority status (rather

⁵⁸ However, as I explain below, I do not assume that the lower pay rate would be stagnant, but instead assume that pay for TWA pilots would gradually converge to the level of the American pilots over time. I estimate the rate of convergence based on the regression to the mean observed in the average salaries of the legacy airlines between 1990 and 2010.

⁵⁹ Feltman Report at 33-34; Levine Report at 23-24.

than starting at the bottom of another airline's seniority list or being unemployed). Third, they joined an airline that was financially healthy at the time and expected to grow.⁶⁰

47. The TWA pilots also benefited from the improved pay rates and benefits available at American, which were better than those at TWA and better than the pay available at many other carriers where those pilots might have sought employment.⁶¹ The TWA pilots moved to the American pay rates by January 1, 2002.⁶² As shown in Exhibit 4, the pay scale for American pilots was more than 40 percent higher than that of TWA for the three plane types that both carriers operated, as well as overall. When adjusted for differences in the maximum flying hours per month under the TWA and American Collective Bargaining Agreements ("CBAs"), the difference is smaller, because the TWA pilots were permitted to fly more hours (see Exhibit 5). Thus, TWA pilots could expect to earn approximately 30 percent more flying for American than they did at TWA.

48. But for the American acquisition, the TWA pilots would have had to seek employment at other airlines where, if they were offered a job at all, they likely would have been at the bottom of an airline's seniority list. And, as shown in Exhibits 6.A, 6.B and 6.C, even for comparable positions, pay rates at many other airlines were lower than those of TWA at the end of 2000 (and were also considerably lower than those of American). In addition, the TWA pilots received higher compensation at American since they were given credit for years at TWA in the American transaction, but generally would not have received longevity credit for pay scale purposes at other airlines.⁶³

⁶⁰ "Climbing Back to Altitude: A Commerce Magazine Conversation with American Airlines CEO Gerard Arpey," August 2004 (<http://www.stlcommercemagazine.com/archives/august2004/altitude.html>).

⁶¹ For example, Captain John Darrah, APA's president, wrote on March 23, 2001 that "[b]y AMR's own numbers, the medical and dental liabilities for TWA employees and retirees [provided by AMR] total more than \$509 million" (J-294 (ALPA 021052)).

⁶² Letter from Don Carty, AA to Bill Compton, TWA on March 6, 2001 (D-211, Ex. G) ("TWA-LLC will utilize these pay rates and benefits until TWA-LLC transitions the employees to American pay rates and benefits, which will be effective no later than January 1, 2002."). *See also*, Hayes Dep. 1/28/2013 at 57:8-19.

⁶³ "Virtually without exception, union contracts in the airline industry provide that a new employee, even one with considerable seniority at a prior employer, starts over at the bottom of the new employer's seniority list" (Written Testimony of Captain Edwin C. White, Jr. Before the Committee on Health, Education, Labor and Pensions United States Senate Hearing on the TWA/American Airlines Workforce Integration June 12, 2003, p. 3).

49. The mitigation data offered by Mr. Salamat provides confirmatory evidence (retrospective rather than prospective) about the TWA pilots' prospects in the event that the transaction with American did not occur.

50. Thus, at the time of the transaction, the TWA pilots could expect the asset acquisition by American to provide employment for virtually all TWA pilots at wages and other benefits that were substantially better than they had been receiving at TWA. This was conveyed by American's leadership when it announced the acquisition and explained why it was purchasing the TWA assets and offering employment to virtually all TWA employees.⁶⁴ By the time negotiations between the pilot groups broke down and the APA and American agreed on Supplement CC, the prospects available to the TWA pilots without the acquisition by American likely were even more dire than when the negotiations began, although conditions at American likely were worse as well.⁶⁵

3. The Parties' Relative Bargaining Positions

51. If there is no information that suggests that one party has an advantage over the other in the negotiations, then it is reasonable to assume that the parties will split the gains approximately evenly.⁶⁶ However, when the bargaining positions of the two parties clearly are unequal, this

⁶⁴ American Airlines 8-K, January 10, 2001. *See also* "Effects of the American Airlines/TWA Transaction and Other Airline Industry Consolidation on Competition and the Consumer," Senate Committee on Commerce, Science and Transportation, February 1, 2001, Prepared Statement Donald Carty, Chairman, President, and CEO, American Airlines, pp. 20-22.

⁶⁵ American also may have brought additional value that was contingent on the merger – a certain amount of furlough protection and other benefits. In July 2001, American and the APA agreed to a Transition Agreement which included an "Agreement Prohibiting the Leveraging of TWA LLC Against the APA" (Transition Agreement between American Airlines, Inc. and Allied Pilots Association Representing The Pilots of American Airlines, Inc., July 10, 2001 at ALPA 009855). This furlough protection was short-lived, because on September 20, 2001, American declared "force majeure" because of reduced demand caused by 9-11 (APA Information Hotline for September 20, 2001 (ALPA 009526-8)).

⁶⁶ Nash, John F. "The bargaining problem." *Econometrica*, vol. 18, issue 2 (1950), pp. 155-162. *See, also*, Memorandum Opinion and Order In the Matter of Applications for Consent to the Assignment and/or Transfer of Control of Licenses Adelphia Communications Corporation (and subsidiaries, debtors-in-possession), Assigners, to Time Warner Cable Inc. (subsidiaries), Assignees, adopted July 13, 2006, Appendix D at 8 ("[T]hroughout our analysis, we adopt a standard solution to bargaining games by assuming that the parties split the gains from trade ($\gamma_0 = \gamma_1 = 0.5$)" (i.e., equally). *See, also*, Baker (2011): "the Commission relied on evidence from a recent academic study to conclude that the joint venture would have roughly equal bargaining skill or patience as MVPDs other than Comcast (specifically satellite and telephone company providers) when negotiating over cable programming. When the bargaining skill is even, the Nash model implies that any increase in the cost to Comcast of providing the programming to an MVPD would be expected to raise the negotiated price by half the cost increase" (at 40, citing Ali Yurukoglu, *Bundling and Vertical Relationships in Multichannel Television*, NYU Stern (2008) at 48, available at http://pages.stern.nyu.edu/~ayurukog/multichannel_vertical.pdf).

assumption is unreasonable. For example, when one party has the right to set the terms and can make a take-it-or-leave-it offer to the other, then the first party will obtain a larger share, and perhaps all, of the gains absent other considerations. This unequal distribution of bargaining positions is more consistent with the situation here, because the American pilots' contract effectively gave them the right to determine the seniority integration outcome unilaterally, and to place all TWA pilots at the bottom of the seniority list, if they chose to do so.

52. In a letter to American pilots that accompanied the summary of Supplement CC provided by the APA's Mergers & Acquisitions Committee to the APA's membership, John Darrah, the President of the APA, explained why APA's M&A Committee and the APA Board decided not to strictly apply the terms of the APA's collective bargaining agreement to the integration of the TWA pilots and place all of the TWA pilots at the bottom of the seniority list. The identified reasons include consideration of "sustainable" assets that TWA brought,⁶⁷ its "long history as a major domestic and international Carrier," and concerns about the future relationship with the TWA pilots⁶⁸ and the potential for costly litigation⁶⁹ if the resulting merged seniority list did not provide some benefits for the TWA pilots. He explained that "[t]hroughout his entire process, the M&A Committee. . . has operated under one central principle: to protect the pre-merger career path of all pilots concerned with the integration."⁷⁰

⁶⁷ Summary of Supplement CC, p. 3 (ALPA 008748) ("TWA brings to the table a large pilot base (St. Louis) and a number of aircraft and Captains positions that were not previously contemplated at a pre-transaction American").

⁶⁸ According to the Summary of Supplement CC, "Once the integration is complete, [the TWA] pilots will not be "them" but part of "us"— American Airlines pilots. These former TWA pilots will become our friends and neighbors. We will all be wearing the same uniforms, flying in the same cockpits and working toward the same goal – making American the most successful airline in the world and making the job of an American pilot the best pilot job in the world. These are obviously difficult times, and the future will present us with many difficult challenges. We must work together to face the new challenges in front of us in a changing world and a changing industry. Once the dust of the integration settles and the inevitable resentments on both sides of the house dissipate, all of us as AA pilots will need to act as a unified force" (p. 4 (ALPA 008749)).

⁶⁹ "[B]oth the M&A Committee and the APA Board have been keenly aware throughout this long process that virtually no pilot integration goes without challenge in the legal system. . . . It would be a disservice to all of you [APA members] if we devised an integration that would give the AA pilots all of the benefits and would make you feel good now, but could be vulnerable to such a challenge. Thus, while your representatives have worked literally thousands of hours to devise an integration method that will stand the test of time, they have also worked to devise a method that will stand the test of litigation, if necessary." [APA Summary of Supplement CC at p. 4 (ALPA 008749)]

⁷⁰ Summary of Supplement CC, p. 3 (ALPA 008748).

53. Economics provides a way to use the above considerations to determine whether any proposed seniority list is a reasonable outcome of negotiations between the TWA and American pilots. In particular:

- a) Neither pilot group should be made worse off under the integrated list than it would have been if there were no agreement.
- b) The seniority list should not be designed in such a way that the TWA pilots disproportionately benefit from that list. Given the other benefits received by the TWA pilots, in particular higher pay and continued employment, and the fact that the American pilots did not obtain other benefits from the transaction, the benefits of the seniority list integration should favor the American pilots.
- c) In evaluating the split of value between the two groups, all of the benefits provided to each party should be considered, because these considerations likely would have affected the pilots' positions on other issues. This includes the pay rate increase and improved benefits that TWA pilots obtained through the acquisition. Even if none of the other value of the transaction were shared with the TWA pilots, they still benefited from the merger by obtaining better pay rates, pensions and an expectation of greater job security.

B. Applying the Economic framework to Evaluate a Proposed Seniority List

54. Economics predicts that, if the parties successfully reached agreement, the merged seniority list would have the following three features:

55. First, both pilot groups would expect to be better off relative to their pre-transaction career expectations. Here, even if all the TWA pilots were stapled at the bottom of the American seniority list, they would have expected to gain relative to their pre-transaction career path through additional compensation by being paid at the American pay rates and being employed by an ongoing airline.

56. Second, the merged seniority list would favor the American pilots. The American pilots expected no gain in compensation as a result of the transaction and already were part of a successful airline. Therefore, the merged list had to preserve their pre-transaction career

expectations and reduce their expectations of furlough in the event of a downturn that resulted in downsizing the airline.

57. Third, since the American pilots had a better bargaining position as pilots of the acquiring airline and through their contract protections, we would expect that, all else equal, the American pilots would gain more from the list than the TWA pilots.

58. I now evaluate the various hypothetical seniority lists that Plaintiffs' experts propose as potential outcomes of the negotiations if ALPA had fulfilled its duty, which they claim it did not do, by applying the economics of bargaining. I take into account the parties' reasonable expectations given the uncertainty that existed at the time of the negotiations about the future for the merged airline. I also examine how the two pilot groups fared given the evolution of the industry and American Airlines after implementation of the seniority list.

1. Prospective Evaluation

59. Parties negotiate without knowing how they will fare in the future under a specific agreement. They develop positions based on their expectations about the future, and they bargain over how to split the gains given expectations about their alternatives and the size of the gains that they anticipate their agreement will yield. As I discussed above in Section IV.B, in order to understand whether a hypothetical negotiated outcome is reasonable, it must be evaluated in light of the parties' expectations at the time they negotiated (i.e., prospectively), not under the conditions known with hindsight. Therefore, to the extent possible, I evaluate hypothetical seniority lists using data and information that was available when the two groups of pilots negotiated the integration, which I call Prospective Evaluation. I consider how each seniority list proposed by Plaintiffs' experts, as well as Supplement CC, would be expected to affect the pilots' career path relative to their expectations without an agreement, given reasonable forecasts of future demand for pilots and flying activity at the merged carrier. The key features of this evaluation are that it is based on information available to the parties at the time of the negotiations as well the inherent uncertainty about future outcomes.

60. Events after American agreed to acquire the TWA assets show why it is important to take into account the uncertainty associated with the airline industry and the employment prospects for pilots when considering what agreement the pilot groups would have reached. The outlook for American at the time of the transaction was very positive – indeed, American hired hundreds

of new pilots after April 10, 2001.⁷¹ However, after American decided to acquire TWA, the fortunes of American and its pilots declined. In particular, the terrorist attacks on September 11, 2001 and the subsequent general economic downturn and reduction in demand for air travel reduced American's fleet and pilot requirements and resulted in furloughing of pilots.⁷² While there were some furloughs at the end of 2001, Exhibit 7 shows that the majority of the furloughs started in 2003 and that the number of furloughs remained high for several years.

61. The risk of furlough was an important consideration for the two pilot groups when they were negotiating the seniority list, but the actual magnitude of future furloughs was unanticipated. As American's former CEO, Gerard J. Arpey, later explained:

As we started 2001, business travel was booming—so much so that we were in danger at American of maxing out our two mid-continent hubs at Dallas/Fort Worth and Chicago. Adding the St. Louis hub in that environment seemed to make sense—not just because it enabled us to grow, but because it let us expand without disrupting the overall supply and demand equilibrium in the industry.

By mid 2001, however, business travel was slowing pretty dramatically. Then came 9/11 and suddenly nobody wanted to fly. We had to make thousands of tough decisions on the fly, just to stay in business. We continued the hard work of integrating TWA, because at that time we still thought an efficient connecting hub in St. Louis could be a profitable addition to our network. Our people—both at American and TWA—did a heroic job. However, the economics of our business continued to deteriorate. We barely escaped bankruptcy a year ago, and in the aftermath of that escape we had to make some even tougher decisions. One of our most difficult realizations was that—in the course of two years—a connecting hub in St. Louis had gone from something we thought we needed to something we could no longer afford.⁷³

62. The role of expectations about future adverse events is evident in the American pilots' perspective that, for them:

seniority integration with the TWA pilots largely involves risks rather than benefits. Integrating TWA pilots into the AA seniority list will ultimately benefit the AA pilots only to the extent that the combined airline grows beyond what American could have

⁷¹ FARBER-000655.

⁷² See, e.g., APA Information Hotline, September 19, 2001, at P06456 (discussing "briefing by [AA] CEO Don Carty regarding management's plans to reducing staffing by at least 20,000 employees"); APA Information Hotline, September 20, 2001, at ALPA 009526 ("I have the extremely unpleasant task of sharing information regarding management's intention to issue furlough notices to 386 American Airlines pilots effective October 1 [, 2001]").

⁷³ "Climbing Back to Altitude: A Commerce Magazine Conversation with American Airlines CEO Gerard Arpey," August 2004 (<http://www.stlcommercemagazine.com/archives/august2004/altitude.html>).

expected absent the transaction. The AA pilots' experience with the prior acquisitions of Air Cal and Reno have taught that this is, at best, unpredictable.

Accordingly, as the pilots of the carrier acquiring assets from a bankrupt airline, the AA pilots are entitled to expect that, to the extent that a pilot's placement on the list will impose risks based on unpredictable future events, the list will be constructed to minimize those risks for the AA pilots. The TWA pilots – whose carrier was bankrupt and nearly defunct, and who have already reaped most of the benefits of the transaction – should fairly bear much of the future risk that goes with those benefits.⁷⁴

2. Evaluation with Hindsight

63. An alternative evaluation of the gains to the two groups of pilots from a seniority list incorporates information about outcomes after the integration, and compares that outcome with an estimate of how the parties would have done if they had not reached agreement. I refer to this approach as “Evaluation with Hindsight.” This approach is less informed by the economics of bargaining than Prospective Evaluation, because it uses information that is not available to the parties at the time of their negotiations. It also gives no credit to expected outcomes under different states of the world, even though parties attempt to anticipate various possible future contingencies when deciding how to trade-off contract provisions that may be valuable under some future circumstances but not under others.

64. Given that the combined airline fared less well than was expected at the time of the transaction, Evaluation with Hindsight will tend to overestimate the expected gains received by the American pilots by making the implicit furlough protection afforded by the integration appear to be more valuable after the fact than the pilots would have expected it to be prospectively. While 9-11 occurred before the APA Board approved Supplement CC on November 7, 2001, the substantial furloughs that started in earnest in 2003, when American was talking about the possibility of filing for bankruptcy,⁷⁵ were not anticipated at that time. As a

⁷⁴ Summary of Supplement CC, p. 14 (ALPA 008759).

⁷⁵ “The three major unions at American Airlines said yesterday that they would conclude voting on concessions by this morning and try to get results to the company before 11 a.m. in Texas. That is the deadline that American, based in Fort Worth, Tex., has set to get a vote tally. If the votes are not counted by then, or if any labor group votes down concessions, then the company will file for bankruptcy-court protection “very soon,” said Bruce Hicks, a company spokesman” (“American Airlines Unions Vote Today on Concessions,” New York Times, April 15, 2003 (<http://www.nytimes.com/2003/04/15/business/american-airlines-unions-vote-today-on-concessions.html>)). In its 1Q2003 10-Q, American stated that “Even with the Modified Labor Agreements, the savings from Management Reductions and the Vendor Agreements, the Company may nonetheless need to initiate a filing under Chapter 11 of the U.S. Bankruptcy Code (a Chapter 11 filing) because its financial condition will remain weak and its prospects uncertain” (American Airlines Corporation Form 10-Q For the Quarterly Period Ended March 31, 2003 at 5).

result, the full extent of the furlough-related gains to the American pilots also were not anticipated at that time.

3. Methodology for Implementing the Evaluations

65. I evaluate the seniority lists at issue as follows:⁷⁶

66. First, I quantify the expected earnings (including pension) of both groups of pilots under the assumption that, if there were no agreement on a merged seniority list after the TWA assets were acquired by American, the TWA pilots would have been stapled at the bottom of the seniority list. In my first alternative, I attempt to approximate the TWA pilots' pre-transaction career expectations. Those expectations would reflect the fact that, absent the transaction, TWA would have liquidated.⁷⁷ As discussed above, I approximate this outcome by stapling the TWA pilots at the bottom of the merged seniority list and assuming that they would initially receive the same pay rates as they received at TWA before the transaction, but that their pay rates would gradually converge to rates equivalent to American pay rates over time. In my second set of calculations, I assume an alternative for the TWA pilots better than their pre-transaction career expectations – that while all the TWA pilots would still be stapled at the bottom of the seniority list, because they were employed by American, they would be entitled to the same pay rates as the American pilots. This outcome is better than their pre-transaction career expectations, and recognizes that the asset acquisition was completed by the time that most of the negotiations occurred. The American pilots could have stapled all the TWA pilots at the bottom of the seniority list, but I assume that, by the time Supplement CC was adopted, they could not deny the TWA pilots the American pay rates, pension and other benefits.

67. Second, I evaluate the expected earnings (including pension) of both pilot groups under the two scenarios (prospective and hindsight) outlined above. For the Prospective Evaluation, I perform computer simulations in which I “draw” from a distribution of possible outcomes for the airline's monthly growth. I calibrate this growth distribution to have expected zero growth (i.e., the expected future size of the airline remains the same as it was in April 2002), and annual growth variance equal to the variance of the annual growth rate (in number of working pilots) of

⁷⁶ In my evaluations, I use inputs and assumptions from Mr. Salamat's analysis, such as his income schedules and classification of pilots as “voluntarily furloughed.”

⁷⁷ Feltman Report at 33-34; Levine Report at 23-24.

the major network airlines between 1990 and 2011.⁷⁸ I perform 500 simulations to obtain 500 separate simulated airline paths between April 2002 and December 2040.⁷⁹ For each path, I calculate the gains for American and TWA pilots that a given scenario (e.g., Supplement CC) would give them over their respective alternative scenarios: “no acquisition” for American pilots and “all stapled” for TWA pilots (quantifying the gains for the alternative in which the TWA pilots immediately receive the American pay rates and the alternative in which they do not). I then average the 500 outcomes and calculate the split of the expected gains. This provides an expected split of the gains given the uncertainty about how the future would evolve for the merged carrier. For the Evaluation with Hindsight, I calculate the split of gains implied by the list being evaluated and the actual history of American and TWA pilots until 2012. For the period after June 2012, I use an estimate of available jobs based on airline size in June 2012.⁸⁰

68. Third, for each pilot group, I calculate the difference between the expected earnings under its fallback payoff and the earnings under the seniority list being evaluated. I sum up these differences separately for the American and TWA pilots over a specified time period (through 2026 for the Evaluation with Hindsight, which is the final year included in Mr. Salamat’s damages calculations, and through 2040 for the Prospective Evaluation, because this is the year that the last pilot would have had to retire).⁸¹ For each pilot group, I calculate the total amount of gains that would have been received under the hypothesized negotiated list relative to the “no negotiated agreement” outcome as a share of the combined gains (total gains to the American pilots plus total gains to the TWA pilots). This shows how, under the hypothesized list, the gains from reaching a negotiated agreement would have been split between the two pilot groups.

⁷⁸ Research and Innovative Technology Administration Bureau of Transportation Statistics: Air Carrier Financial: Schedule P-10. This table includes annual employee statistics by labor category. We used ‘Pilots and CoPilots’ by carrier for 1990 to 2011. We included American, Continental, Delta, Northwest, TWA, United and US Airways and excluded years with major mergers. We calculated the change in pilots from year to year as $\log(\text{pilots}(t-1) / \text{pilots}(t))$ and calculated the standard deviation of this growth rate.

⁷⁹ I extend the simulation to December 2040 to allow for all pilots on the Supplement CC seniority list to reach retirement.

⁸⁰ All my analyses begin with data from April 2002 (the data as compiled by Mr. Salamat), because these are the earliest data available to me.

⁸¹ I am concerned only with the aggregate number for purposes of understanding whether a hypothetical seniority list is reasonable, so I aggregate over individual differences that may be negative.

69. My analysis is intended to measure the pilots' expectations when they were negotiating in 2001,⁸² and to evaluate Supplement CC as well as the hypothetical seniority lists proposed by Plaintiffs' experts in light of how they would affect the pilots' expected future earnings while employed at American. Therefore, it is important to discount future earnings appropriately. Employment at a major airline is uncertain, as the histories of TWA and American make clear, so pilots would not value \$50,000 in additional nominal earnings in 2013 as much as \$50,000 in additional nominal earnings in 2003. Because I value the surplus in 2013, but am measuring the expected future earnings as of the time of the negotiations, I bring forward past earnings and discount future earnings using American's Weighted Cost of Capital ("WACC"), which reflects the riskiness of the carrier as reflected in its cost of obtaining funds.⁸³ Businesses often use their WACC when analyzing the expected return (or discounted cash flows) from investments.⁸⁴ Indeed, firms (and I understand American) commonly use WACC to evaluate the profitability of investments and make other business planning decisions.⁸⁵

C. Summary

70. The proper way to evaluate whether a hypothetical seniority list is consistent with the economics of bargaining is to take into account only the parties' expectations at the time of the negotiations, rather than rely on information that was not available to the parties when they negotiated. This is a Prospective Evaluation. The reasonableness of a hypothetical list depends on how, when they were negotiating, the parties would have expected to fare compared with the outcome if they did not reach agreement. This evaluation would take into account uncertainty about how the airline would do in the future – the possibility of both good and bad outcomes. In other words, it would reflect the values each party would receive given its expected opportunities under the variety of potential demand conditions for American's services – the benefits received if the airline expands and benefits received if the airline contracts, weighted by the likelihood that alternative scenarios will occur. Evaluation with Hindsight is less reliable for evaluating

⁸² As noted, I use data beginning in April 2002 for my evaluation, because earlier data were not available to me.

⁸³ Franklin M. Fisher and R. Craig Romaine, "Janis Joplin's Yearbook and the Theory of Damages," 5 J. Accounting, Auditing and Finance (Winter/Spring 1990), pp. 145, 149-51. See also Lanzillotti and Esquibel, "Measuring Damages in Commercial Litigation: Present Value of Lost Opportunities," J. Accounting, Auditing & Finance (1990), pp. 125, 130, 132.

⁸⁴ Valuation and Managing the Value of Companies at p 106, Tim Koller, Marc Goedhart and David Wessels, John Wiley & Sons, Inc. at 101.

⁸⁵ See Agreement between American Airlines, Inc. and The Air Lines Pilots in the service of American Airlines, Inc. as represented by the Allied Pilots Association, May 5, 1997, pp. 1-2, 1-3, 1-7 (J-324).

whether a hypothetical seniority list would be a reasonable negotiated outcome. Nevertheless, I have evaluated Supplement CC and the hypothetical seniority lists proposed by Plaintiffs' experts under both approaches. This makes it easier to compare these results to those of Mr. Salamat who relied only on hindsight.

V. SUPPLEMENT CC IS A REASONABLE OUTCOME FOR THE TWA PILOTS GIVEN THE ECONOMICS OF BARGAINING

71. The information available to me limits the starting point of my analysis of Supplement CC to April 2002.⁸⁶ Based on the size of the airline that was expected at the time of the transaction – which would include American's existing planes, American planes on order, and TWA planes that were acquired with the transaction – I calculate the share of jobs attributable to TWA planes. In April 2002, there were 10,548 working American pilots and 1,799 working TWA pilots.⁸⁷

72. I derive the expected outcome for American as a stand-alone company (without the transaction) by eliminating the jobs attributed to the TWA planes and eliminating the TWA pilots. This scenario reflects the career expectations of the American pilots absent the transaction. I approximate the no-transaction alternative for the TWA pilots by evaluating what they would have received if they were at the bottom of the list of the combined airline in my simulation without the benefit of other protections received as part of Supplement CC such as the St. Louis fence. This essentially gives the TWA pilots property rights over the net jobs contributed to the merger by TWA by allowing them to fill these jobs rather than be furloughed. I evaluate two alternatives – one in which I assume the TWA pilots would immediately receive American's pay rates, and another in which I assume that the TWA pilots would initially receive the same pay rates as I estimate they were receiving at TWA before the transaction and then gradually would converge to American pay rates over time.⁸⁸

73. In order to quantify how Supplement CC compared with the pilots' expected positions, I use the pay schedule that Mr. Salamat calculated for April 2002, restricted to pilots that were actually working as of that date. I also use the pay schedule that Mr. Salamat calculated which

⁸⁶ If they were available, I would use data for the period during which the pilot groups negotiated.

⁸⁷ TWA is given credit for CKA/SUPV jobs in this analysis based on their plane share.

⁸⁸ I estimate the rate of convergence based on the regression to the mean observed in the average salaries of the legacy airlines between 1990 and 2010.

assumes that TWA pilots are able to bid for jobs flying large wide-body aircraft, but only after the last American pilot is estimated to reach that milestone.⁸⁹

74. I allow the size of the airline (i.e., the number of pilot jobs) to grow or shrink over time based on unpredictable events, which I derive from the distribution of annual growth rates of large U.S. airlines over the 1990-2011 period.⁹⁰ It would have been reasonable for the parties to consider at the time they were negotiating that the economy and demand for American's services could evolve in a variety of different ways, and this uncertainty is incorporated in the Prospective Evaluation.

75. For Evaluation with Hindsight, I follow the same general methodology, but I adjust the size of the airline to reflect the actual growth experience of the combined entity.

76. Exhibit 8.A summarizes how Supplement CC split the gains between the two pilot groups under Prospective Evaluation and Evaluation with Hindsight. Prospective Evaluation excluding the value to the TWA pilots of their increased pay shows that the TWA pilots received 48 percent of the total gains, or 4.5 times more than the American pilots, on a per pilot basis; the TWA pilots still received about three times more per pilot than the American pilots when evaluated under hindsight. Prospective Evaluation including the value to the TWA pilots of their increased pay shows that the TWA pilots received roughly 60 percent of the gains. The greater share for the TWA pilots under this second calculation (which includes the value of higher pay) reflects the fact that the gains to the American pilots are the same in the two cases, while the benefits to the TWA pilots increase by the amount of the higher pay. These outcomes are consistent with bargaining theory; they imply that the TWA pilots were able to obtain a substantial share of the overall benefits and an even greater share of the benefits when measured on a per-pilot basis, given there were about five times as many American as TWA pilots. The results without accounting for the higher pay imply that the American pilots received slightly

⁸⁹ I assume real wage growth of 1.2 percent annually based on "The Long-Range Economic Assumptions for the 2012 Trustees Report," Office of the Chief Actuary Social Security Administration, April 23, 2012, Table 3.1.

⁹⁰ I use data from Research and Innovative Technology Administration Bureau of Transportation Statistics: Air Carrier Financial: Schedule P-10. This table includes annual employee statistics by labor category. I use the category "Pilots and CoPilots." I include American, Continental, Delta, Northwest, TWA, United and US Airways and exclude years with major mergers. I calculate the change in pilots from year to year as $\log(\text{pilots}(t-1) / \text{pilots}(t))$, and calculate the standard deviation of this growth rate.

more than half of the benefits from the seniority list integration. This is consistent with bargaining theory given their superior bargaining position.

77. The difference between the results for the Prospective and Hindsight Evaluations reflects the impact of 9-11 and the subsequent economic downturn that resulted in extensive furloughs at American that continued for several years. The large and extended impact on American's demand for services of pilots was not anticipated when American agreed to purchase the TWA assets, when the parties were negotiating, or even at the time that the APA developed and American approved Supplement CC.⁹¹

78. As a consequence of the reduction in American's operations, the American pilots benefited from the implicit furlough protection provided by the integration of the TWA pilots under Supplement CC. Many TWA pilots remained furloughed for several years, which meant that they did not benefit from the higher pay rates and other benefits that the merger provided to the working pilots. The consequence is that, when evaluated with hindsight, the American pilots obtained 58 percent of the total gains when I include the value to the TWA pilots of their increased pay, and 63 percent of the total gains when I exclude the value to the TWA pilots of their increased pay. These are larger fractions of the benefits of the merger than would have been expected when Supplement CC was developed.

VI. MR. SALAMAT'S HYPOTHETICAL SENIORITY LISTS ARE NOT REASONABLE AND HIS ANALYSIS SUFFERS FROM A VARIETY OF OTHER FLAWS

A. Summary of Mr. Salamat's Opinions

79. According to Mr. Salamat, ALPA's failure to take certain actions in representing the TWA pilots was "a problem of increased uncertainty" that requires "estimating how the parties, as agents, would have responded and ultimately decided given that uncertainty."⁹² He claims that "[f]rom the point of view of the TWA pilots, there were a range of possible outcomes ranging from the least desirable, a list just slightly better than Supplement CC, to an upper limit

⁹¹ Darrah Dep. 11/29/2012 at 56:8-56:16 ("And that was my honest understanding of where we were as an airline at that point because nobody could have predicted 9-11. Nobody could have predicted an economic recession that almost turned into a depression, SARS, gas prices and all those things. So to your answer, yes, we — we fully predicted our thought that this airline was going to continue to grow and this thing was going to work out great for everybody.")

⁹² Salamat Original Report at 2.

which is defined as the list an arbitrator would most likely have imposed.”⁹³ He says that his task is to “estimate as accurately as possible where in that range an agreement between the TWA pilots and the APA would have fallen given effective representation by ALPA.”⁹⁴ Mr. Salamat’s analysis has three distinct parts.

Quantifying the Probability that ALPA Actions would Achieve a Different Seniority List

80. First, Mr. Salamat claims to develop a “theoretical framework” for “estimating the possible results of the actions ALPA did not employ in representing the TWA pilots.”⁹⁵ He identifies various actions that ALPA could have taken, the success of which he says “is for others to estimate.”⁹⁶ Yet he then provides his own estimates of how they would have affected the negotiations. To each of these hypothetical actions he assigns a percentage that he claims reflects the probability that the action, by itself, would have affected (1) the importance that APA placed on an issue, (2) the probability that it would have caused a change in the APA’s “perception” of the TWA pilots, and (3) the likelihood that the APA would have abandoned a particular goal.

81. Mr. Salamat acknowledges that he has no empirical or scientific basis for the probabilities he assigns to the various actions he claims ALPA should have taken. Instead, he makes arbitrary and unfounded assertions about the probability that various actions by ALPA would have affected the three different aspects of the negotiation he identifies — importance, perception and goal abandonment. These aspects are purportedly based on Professor Katia Sycara’s model on persuasive argumentation, which “posits that, in order to change a persuadee’s beliefs to make him/her more amenable to making concessions to reach an agreement, a persuader generates arguments to (i) change the importance of a persuadee’s issue/goal, (ii) change the persuadee’s perception of an issue’s value, and (iii) pursue goal abandonment on the part of the persuadee via threats/promises.”⁹⁷ Despite admitting he has no

⁹³ Salamat Original Report at 2.

⁹⁴ Salamat Original Report at 3.

⁹⁵ Salamat Original Report at 5.

⁹⁶ Salamat Original Report at 5.

⁹⁷ *Expert Report of Katia P. Sycara, Ph.D., March 15, 2013* (“Sycara Report”) at 4. However, in a report submitted in this matter by Professor Sycara on behalf of ALPA, she explains that “Mr. Salamat has misapplied my theory of persuasive argumentation” (Sycara Report at 2), and that “[h]is report and deposition show multiple points of confusion in his understanding of the underlying concepts and assumptions of my theory.” She explains that “Mr. Salamat uses the wrong estimation framework; ignores fundamental assumptions about and preconditions for the

empirical basis for selecting specific percentages, he asserts, for example, that if ALPA had instituted a “jump seat war” – blocking APA pilots from using jump seats (which are ordinarily made available as a matter of course) on airlines whose pilots are represented by ALPA⁹⁸ – that action would have had a 3% impact on importance, a 5% impact on perception and a 2% impact on goal abandonment.

82. He then combines these empirically ungrounded probabilities by summing across the three potential impacts (on importance, perception and abandonment) and across the various actions he claims ALPA could have taken. From these calculations, he opines that there was a “73% chance of creating an agreement” between APA and ALPA if ALPA had taken all the identified actions.⁹⁹

83. At his deposition, Mr. Salamat clarified that his opinion is that, if ALPA had undertaken all of the actions which Plaintiffs claim it had a duty to undertake, there is a 73% probability that the outcome of negotiations between the TWA and American pilots would have been the specific merged seniority list that he refers to as the “DMODEL,” and on which he bases his preferred damages calculation.¹⁰⁰ According to Mr. Salamat, this is not the probability of achieving his other alternative seniority lists that he hypothesizes. Mr. Salamat did not provide estimates of the probability that the TWA MEC and the APA would have agreed upon any of his other alternative lists, absent any breach by ALPA.

Deriving the But-For Seniority List

84. Second, Mr. Salamat says that he “must estimate what a merged seniority list would have been had ALPA not breached its duty of fair representation.”¹⁰¹ Mr. Salamat derives four alternative seniority lists, which he describes as:

applicability of my model; and attempts to use my model to generate probabilities in contravention of both my own theories and of basic math” (Sycara Report at 11).

⁹⁸ ALPA Jumpseat Policy, at ALPA 034148 (“ALPA encourages all pilots to extend the use of their jumpseats to eligible cockpit crewmembers as a professional courtesy . . . Denial of jumpseat privileges as a means of punishing, coercing or retaliating against other pilot groups or individuals is not supported by ALPA.”)

⁹⁹ Salamat Original Report at 9.

¹⁰⁰ Salamat Dep. 1/29/2013 at 164:11-22; Salamat Dep. 1/30/2013 at 138:22-139:3.

¹⁰¹ Salamat Original Report at 12. According to Mr. Salamat, the merger involved integration of 2,166 TWA pilots with 11,557 American pilots. However, in his preferred list he claims that there are 2,337 TWA pilots.

- a) A “fair” outcome, which he says is based on placing “likes with likes” based on income.¹⁰² As implemented, he merged the pilots by income, implicitly assuming that a “fair” outcome would place each TWA pilot in a position where he or she would earn the same as American pilots in the same seniority “neighborhood” on the list (using “pilots’ incomes as they would be if they were all paid at the maximum years of service”).¹⁰³
- b) His “best guess” as to what an arbitrator would have awarded, using his qualitative conclusions from reviewing a number of arbitrated and other seniority mergers (the “Arbitrated List”).¹⁰⁴
- c) A list that arbitrarily shifts 200 TWA pilots from the bottom of the seniority list into the group that was merged with the American pilots by a ratio. According to Mr. Salamat, this list would be “marginally” better than Supplement CC and he therefore refers to it as the “Marginal List.”¹⁰⁵
- d) The “best achievable negotiated list,” which he refers to as the Salamat Damages Model or DMODEL.¹⁰⁶ He says that this list is “constructed by reference to the other three [lists]” using Supplement CC as its basis. He characterizes it as “a compromise between the Marginal List and the Arbitrated List.”¹⁰⁷

85. I focus my critique of Mr. Salamat’s analysis on his proposed Salamat Damages Model, because this is the list that he considers “the likely outcome of a successfully negotiated list,”¹⁰⁸ and the only one for which he purports to quantify the probability that it would have been achieved through negotiations if ALPA had undertaken the actions that he claims were required to fulfill its duty of fair representation. The major differences between the Salamat Damages Model list and Supplement CC (and thus the changes in the seniority list that Mr. Salamat claims would have been achieved if ALPA had fulfilled its duty of fair representation) are:

¹⁰² Salamat Original Report at 18.

¹⁰³ Salamat Original Report at 18.

¹⁰⁴ Salamat Original Report at 14.

¹⁰⁵ Salamat Original Report at 15.

¹⁰⁶ Salamat Original Report at 15. The results of this list cannot be a reasonable estimate of damages, given that this is the “best” that possibly could be achieved under a variety of unrealistic assumptions.

¹⁰⁷ Salamat Original Report at 15. Mr. Salamat thus would have to concede that any better list (including his “fair” and arbitrated lists and the lists proposed by Professor Farber) could not have been achieved through negotiations.

¹⁰⁸ Salamat Original Report at 36.

- a) The top staple of American pilots would be 2,494 versus 2,596 under Supplement CC;¹⁰⁹
- b) An additional 778 TWA pilots would have been moved into the merged group (expanding the number of TWA pilots merged after the top 2,494 American pilots from the 1,095 that were merged under Supplement CC to 1,873);¹¹⁰
- c) The bottom staple of TWA pilots would be 464¹¹¹ (compared with 1,242 under Supplement CC).¹¹²

In deriving the DMODEL as well as his other alternative seniority lists, Mr. Salamat pays no attention to what reasonably was expected by the American pilots, or to how his proposed lists would have affected the benefits (and potentially the harms) to the American pilots.¹¹³ As I explain later in my report, this is a critical error.

Quantifying Damages

86. Third, Mr. Salamat calculates the damages that he claims the TWA pilots suffered because they were not placed in the proper position on the merged seniority list. He uses a “rolling average” method to “describ[e] the relationship between seniority and income,” which he says is the relationship “at the heart of estimating damages to the TWA pilots.”¹¹⁴ Mr. Salamat claims the use of this “rolling average” is necessary because “many pilots do not bid for the highest paying position they could hold, but make tradeoffs between money and lifestyle.”¹¹⁵ Mr. Salamat then estimates damages for two separate time periods: (1) “but-for” income for each TWA pilot during the period for which he has data on the pilot’s actual earnings (April 2002-

¹⁰⁹ Salamat Original Report, Figure 10, at 31.

¹¹⁰ Salamat Original Report at 32.

¹¹¹ Salamat Original Report, Figure 11, at 32.

¹¹² This bottom staple is inconsistent with the TWA MEC’s October offer to staple 597 TWA pilots at the bottom of the merged seniority list (Position Statement of APA, footnote 18, at ALPA 015311).

¹¹³ He also ignores other benefits, such as higher pay, received by the TWA pilots, even though these would have factored into the negotiations.

¹¹⁴ Salamat Original Report at 40.

¹¹⁵ Salamat Original Report at 38.

June 2012) and (2) “future impacts” through June 2026,¹¹⁶ using the rolling average for June 2012.¹¹⁷

87. In his original report, Mr. Salamat calculated damages of \$887.4 million based on the differences between Supplement CC and the hypothetical seniority list he posits under the DMODEL. He then multiplied this amount by 0.73, assuming – as described above – that there was a 73% chance that if ALPA had not breached its duty of fair representation the parties would have adopted a merged seniority list identical to the DMODEL. He thus concluded that ALPA is “liable for \$647,808,701 in unmitigated damages.”¹¹⁸

88. In his set-off report, Mr. Salamat reduced his damages estimates “by income earned through substitute employment”¹¹⁹ (mitigation or set-off) based on responses by individual pilots to requests for information about income earned while they were furloughed by American.¹²⁰ Under the DMODEL, he estimated \$593.1 million in damages after accounting for mitigation.¹²¹ Mr. Salamat’s post-mitigation damages analysis did not include an adjustment for the supposed probability of achieving the DMODEL list (i.e., he did not multiply by 0.73).

89. Finally, as noted above, Mr. Salamat offers three other but-for seniority lists and calculates damages based on each one. However, he provides no estimates of the probability that any of the other hypothetical seniority lists on which he basis his alternative damages calculations would have been achieved, absent ALPA’s breach.

B. Mr. Salamat’s Hypothetical Seniority Lists are Not Reasonable

90. In deriving his hypothetical seniority lists, Mr. Salamat considers only how a seniority list would have affected the TWA pilots. He ignores the role of the American pilots in the negotiations, how his hypothetical seniority lists would have affected them, and the dynamics of bargaining. Thus, he effectively ignores the key factors that would have determined the outcome of negotiations between the two pilots groups, even though he claims he is trying to predict

¹¹⁶ Salamat Original Report at 42.

¹¹⁷ Mr. Salamat explains why he estimates damages through 2026 as follows: “The model runs to the end of June 2026, a point when 63% of the TWA pilots are estimated to have retired. Often these models run until all pilots have retired (2040 in this matter), but the decision in this case was to use a more conservative forecast horizon of 14 years” (Salamat Original Report at 45).

¹¹⁸ Salamat Original Report at 48, 52.

¹¹⁹ Salamat Original Report at 46.

¹²⁰ Salamat Set-Off Report at 1.

¹²¹ Salamat Set-Off Report, Figure 6, at 11.

“what an agreement between the APA and the TWA pilots would have been.”¹²² At his deposition, Mr. Salamat acknowledged that he had made no assumptions about the pre-transaction expectations of either the TWA or American pilots,¹²³ and that he ignored these expectations in developing his proposed seniority lists.¹²⁴ As explained above, this is wrong as a matter of economics. In order to understand whether a proposed seniority list likely, or even possibly, reflected the outcome of negotiations between the parties, one cannot ignore the parties’ pre-transaction career expectations.

91. Exhibit 8.B shows that Prospective Evaluation of the sharing of integration benefits under Mr. Salamat’s DMODEL is inconsistent with economics and therefore is unreasonable.

Prospective Evaluation shows that the American pilots are *harmed* by the integration, while the TWA pilots obtain far more than the total gains generated from the transaction. Evaluation with Hindsight shows that, even viewed after the fact, the TWA pilots obtained virtually all the gains. The average gain per TWA pilot of over \$300,000 is more than 50 times greater than the gain of the average American pilot (less than \$6,000). Based on my previous discussion, this is an unlikely outcome from negotiations between the pilot groups given that the American pilots had more bargaining leverage than the TWA pilots given their contractual rights.

92. Exhibit 9 evaluates how benefits are shared between the American and TWA pilots under the other proposed seniority lists for which Mr. Salamat estimated damages. Not surprisingly, all except Mr. Salamat’s Marginal List (SuppCC200) result in losses for the American pilots relative to their positions absent the acquisition. This result is expected since each of these lists is even more favorable for the TWA pilots than Mr. Salamat’s DMODEL. Mr. Salamat’s Marginal List results in approximately equal sharing of the total benefits between the two pilot groups. Given that American had about five times as many pilots as TWA, this results in the average TWA pilot obtaining five times the gain received by an American pilot.

¹²² Salamat Original Report at 14.

¹²³ Salamat Dep. 1/29/2013 at 49:23-50: 14.

¹²⁴ Salamat Dep. 1/29/2013 at 81:4-21 (“Q: I’m asking whether you have any information indicating to you that the TWA MEC believed it was appropriate to take into account the pre-transaction career expectations of each pilot group in constructing a merged seniority list. A: To the extent that that is reflected in the Tannen rightful place proposal, I believe it is. Q: Did you do anything to test whether the lists that you set forth in your report succeed in preserving the pre-transaction career expectations of each pilot group? A: No, I did no work on the premerger trans — the un-merged expectations of either of the pilot groups. Q: And you considered that factor irrelevant for your analysis; correct? A: Yes. I considered it irrelevant.”)

93. It is notable that these results are seen even though Evaluation with Hindsight provides a greater share of gains from the transaction to the American pilots than would have been expected at the time the parties were negotiating. It reflects the realized, rather than expected, benefits the American pilots received from having TWA pilots below them on the seniority list. Because of furloughs, the TWA pilots did not receive as much benefit in higher pay as they would have expected, and the American pilots received more value from the furlough protection than they would have expected. The negotiations would not have reflected the certainty associated with this outcome, however, but only the probability that it could occur (which generally is taken into account as a possible future outcome in my Prospective Evaluation).

94. Thus, my evaluation of Mr. Salamat's hypothesized DMODEL and the other seniority lists for which he estimates damages shows that:

- a) Prospective Evaluation demonstrates that Mr. Salamat's DMODEL proposal is not a reasonable outcome of bargaining between the parties, because the American pilots would have expected to be made worse off than they expected without the transaction. Even using Evaluation under Hindsight, DMODEL provided almost all the gains to the TWA pilots, an unlikely outcome given the contract rights of the American pilots;
- b) Mr. Salamat's other proposed lists and the lists proposed by Professor Farber generally are even less reasonable and thus could not have been reached through negotiation.

C. Mr. Salamat Provides no Empirical Evidence that ALPA's Actions Would Have Affected the Seniority List

95. Mr. Salamat provides no empirical evidence that any of the actions that Plaintiffs claim ALPA should have taken would achieve their goal of a more favorable seniority list. For example, while Mr. Salamat asserts that ALPA should have supported the TWA pilots in seeking an injunction in October 2001, he provides no evidence to suggest that there was any likelihood that a Court would have granted an injunction. Nowhere in his report does he evaluate empirically whether anything ALPA might have done differently would have influenced the APA to offer seniority integration terms that, on the whole, were more favorable to the TWA pilots than the terms of Supplement CC. Instead, Mr. Salamat simply *assumes* that each change

in ALPA's conduct would have increased the likelihood of the APA agreeing to a more favorable outcome for the TWA pilots. This is not a substitute for empirical analysis.

D. Mr. Salamat Does Not Apply any of the "Theoretical" Foundations that He Claims Underlie His Analysis

96. Mr. Salamat claims that "[b]ehavioral theory, expected utility, game theory and the analysis of persuasion...attempt to give insight into how parties will behave in negotiations [and] together they form a body of work from which a reasoned and methodical estimate of damages to the TWA pilots can be drawn given the assumption that ALPA had not violated its duty."¹²⁵ However, he never develops, presents, applies or properly explains these theories and what they predict about how the specific actions that he claims comprise ALPA's breach would have affected the outcome. I am aware of no principles in economic theory, behavioral theory, game theory or any other body of academic research and literature that support the methodology that Mr. Salamat applies to construct his hypothetical seniority lists and to calculate damages.

E. Mr. Salamat's Assumed Probabilities Have No Empirical Basis

97. As described above, the first step Mr. Salamat took to calculate his estimated DMODEL damages (before set-off) was to "develop[] a static table of probabilities that allow a methodical way to estimate the likelihood that [an individual course of action that ALPA could have pursued] could have had in isolation"¹²⁶ on reaching DMODEL. He combined those probabilities into a joint probability of achieving the better outcome.

98. Mr. Salamat's methodology for evaluating the impact of actions on the outcome is invalid as a matter of logic and statistics. His probability assignments are summarized in Exhibit 10. He offers no basis for the individual probabilities he arbitrarily assigns to each proposed ALPA action, and he admitted at his deposition that he had no rationale for these probabilities.¹²⁷

F. Mr. Salamat's Assumed Probabilities Are Combined Inappropriately

99. Exhibit 10 shows that Mr. Salamat compounds the error resulting from his arbitrarily assumed probabilities by adding them together and purporting to calculate the overall probability that the APA would have agreed to the DMODEL List if ALPA had not breached its duty. As a

¹²⁵ Salamat Original Report at 4.

¹²⁶ Salamat Original Report at 9.

¹²⁷ Salamat Dep. 1/29/2013 at 205:23-206:22; 207:15-20.

matter of basic statistics, summing probabilities as Mr. Salamat does is not appropriate. Consider each action that Mr. Salamat claims ALPA could have taken as equivalent to rolling a dice. Mr. Salamat appears to be asking the following: if ALPA rolled the dice six times, what is the likelihood that it would have succeeded in rolling a six at least once? Mr. Salamat's calculation yields 100% ($6 \times (1/6) = 1$), but the proper calculation is 66.5% ($1 - (1 - 1/6)^6$).¹²⁸ The second column of Exhibit 10 shows the cumulative probability of Mr. Salamat's individual probability assumptions if calculated properly and if each probability were independent – a combined probability of 53.3% rather than 73%. Accordingly, even assuming that Mr. Salamat's probabilities are otherwise appropriate (and he admitted that they are arbitrary and without empirical basis), the proper amount by which to discount his total damages under the DMODEL is 53.3%, not 73%. Correcting this error alone reduces the damages before set-off, using Mr. Salamat's methodology, from \$647.8 million to \$473 million.

100. This calculation still overestimates the likelihood that the parties would have agreed to the DMODEL List because the likelihood of success of each of the hypothetical actions identified by Mr. Salamat is not independent, unlike each roll of the dice. If these actions were taken in the sequence listed, the probability that a particular action would succeed likely would decline after previous actions failed to achieve the TWA pilots' goal. For example, if ALPA had not agreed that the TWA pilots should waive scope (i.e., according to Mr. Salamat, had not failed in its initial duty to the TWA pilots, but instead had taken actions to fight the waiver) and this effort were unsuccessful, the likelihood that future ALPA actions would affect the negotiations to the benefit of TWA likely would have declined given what that failure would have revealed about the strength of the TWA pilots' position. Pursuing futile strategies to achieve the same goal would only confirm the TWA pilots' weak bargaining position and strengthen the APA in its negotiations. Thus, the second column of Exhibit 10 corrects Mr. Salamat's fundamental statistical error, but still overestimates the probability of reaching agreement on the DMODEL (assuming that each individual probability were accurate) because the likelihood of success of the remaining options decreases as previous attempts fail.

¹²⁸ Each roll has a $5/6^{\text{th}}$ probability of failing. The probability of rolling a six at least once is one minus the probability that all six rolls do not result in a six).

101. My corrected calculations also may overestimate Mr. Salamat's purported probability of reaching agreement on the DMODEL seniority list because Mr. Salamat failed to take into account that not all of the listed actions could have been pursued in combination. Pursuing certain actions could have made it impossible to pursue others. For example, Mr. Salamat testified that he did not consider whether the various legal strategies – which comprise four individual actions on his list – all could have been pursued in sequence.¹²⁹ Instead, having “no [] way of assessing whether it would have been possible or not,” Mr. Salamat simply “presum[es] that the subsequent legal strategy] is not made redundant by the first one.”¹³⁰ Since pursuit of some actions could have made it impossible to pursue others, even the 53.3% likelihood of reaching the DMODEL seniority list, based on Mr. Salamat's made-up probabilities, is too high.

G. Mr. Salamat Ignores the Impact of and Reason for the St. Louis Fence

102. Mr. Salamat ignores the benefits that the TWA pilots could have expected from the St. Louis fence. He focuses exclusively on the outcome for the TWA pilots, viewed with hindsight, under Supplement CC compared with outcomes that he claims could have been achieved through negotiations absent a breach by ALPA (including DMODEL and others). However, from a prospective view, if American had performed as expected at the time that it agreed to acquire TWA,¹³¹ then the St. Louis fence created by Supplement CC would have resulted in TWA pilots generally flying the same aircraft and having the same or better opportunities at higher pay rates than in the past, irrespective of their position on the seniority list. In effect, the St. Louis fence created a separate airline within the larger airline, in which bidding opportunities were reserved for the TWA pilots at the higher American pay scale. The reduction in the value to American of operating and expanding its St. Louis hub after the transaction likely was a consequence of the unanticipated extreme and protracted downturn in air travel, especially at the legacy network carriers like American (see Exhibit 11).

¹²⁹ Salamat Dep. 1/30/2013 at 5:22-15:6.

¹³⁰ Salamat Dep. 1/30/2013 at 6:10-13.

¹³¹ American's CEO in 2004 explained, “business travel was booming—so much so that we were in danger at American of maxing out our two mid-continent hubs at Dallas/Fort Worth and Chicago. Adding the St. Louis hub in that environment seemed to make sense.” “Climbing Back to Altitude: A Commerce Magazine Conversation with American Airlines CEO Gerard Arpey,” August 2004 (<http://www.stlcommercemagazine.com/archives/august2004/altitude.html>).

103. By ignoring the fence, Mr. Salamat wrongly attributes damages to TWA pilots whose earnings would not have been any higher in a but-for world where they had greater seniority on the merged seniority list. Under Mr. Salamat's methodology, damages attributed to a TWA pilot are calculated from the average monthly income of pilots with similar seniority – the “average income of a pilot's seniority ‘neighbourhood.’”¹³² But imputing income in this way ignores the fact that position on the merged seniority list does not determine the TWA pilot's income when the fence is operating. Rather, earnings of TWA pilots are determined by their relative seniority within the *TWA pilots' subset of the merged seniority list*, because their opportunities are defined by options available in St. Louis. The most senior TWA pilot would not earn more simply because he or she moves up on the merged seniority list in Mr. Salamat's but-for world.

104. The fact that Mr. Salamat wrongly ignores the reason for the St. Louis fence is evident from his own damages calculations. He concludes that, under his DMODEL, \$258.6 million of the total \$671.1 million in damages (before set-off), or 39 percent, is attributable to “employment” damages to which he claims the TWA pilots are entitled because under Supplement CC they were denied the opportunity to bid for better paying jobs consistent with the seniority that he claims they should have had. A portion of the remaining damages, which are lost pension, also derived from reduced employment opportunities for TWA pilots during this period. But all these gains would have been obtained at the cost of the American pilots – they represent, in effect, a transfer of the American pilots' pre-transaction expectations to fly the planes that American brought to the transaction, and to advance up their career path in the same ways as they would have done without the transaction.¹³³ The St. Louis fence, which Mr. Salamat ignores, was imposed to prevent this transfer of pre-transaction career prospects from the American pilots to the TWA pilots (as well as analogous transfers in the other direction). Mr. Salamat wrongly assumes that the protection that it offered would not have been part of any

¹³² Salamat Original Report at 18.

¹³³ “Differing career opportunities, however, have certainly played a role in the construction of lists. The amount of ‘premium’ work, such as wide-body captaincies, aircraft on order, airline growth and quality of work all play some role in virtually every merger and it is not uncommon for one party to argue that its pilots should be granted a seniority premium to reflect the ‘better opportunities’ they bring and that the other party will have a chance to share in” (Salamat Original Report at 30). When asked as his deposition whether he had “seen in your work that, in evaluating the fairness of seniority integration lists that people look to, whether the integrated list preserves the pre-transaction career expectations of each pilot group?” Mr. Salamat responded that “That -- that would be common in – in mergers that people do that, yes” (Salamat Dep. 1/29/13 at 73:9-15).

negotiated agreement on the seniority list, particularly in the case of a list, like his, that would have made such transfers of expectations likely.

H. Mr. Salamat's Methodology Cannot Determine Damages Owed to Individual Pilots

105. According to Mr. Salamat, seniority is a “currency” that pilots use to purchase options like leisure, choice of equipment, and choice of schedule. He acknowledges that “many pilots do not bid for the highest paying position they could hold, but make tradeoffs between money and lifestyle.”¹³⁴ For example, a pilot can choose to fly as a captain of a small wide-body rather than a first officer of a large wide-body, and will earn a lower hourly rate as a consequence, but may be based in a hub closer to his or her home, or have a better working schedule (e.g., fewer nights away from the base).¹³⁵ Mr. Salamat's analysis shows that seniority is related only loosely to income – because a “pilot's income is the result of both seniority and what the pilot has chosen to do with it . . . , within a small section of a seniority list, there can be a wide range in the incomes of pilots.”¹³⁶

106. This is illustrated in Mr. Salamat's Figure 5, which shows the monthly income of each American Airlines pilot in April 2002 according to his/her seniority. The average monthly income (as seen on the trend line) in the neighborhood of American pilot at seniority #6000 “is approximately \$10,000 but that some pilots [in that neighborhood] are earning as little as \$7,000 while some are earning as much as \$15,000.”¹³⁷ This means that, given a very narrow range of seniority, pilots earn very different amounts, reflecting their choice of how to use their seniority.

107. Because of this variation, Mr. Salamat uses a “rolling average” methodology to estimate the pay that an individual pilot would earn if that pilot were in a different seniority position, stating that “[u]sing an average relieves this problem and adjusts for pilots' individual choices.”¹³⁸ However, this assumption causes him to eliminate the individuality in pilot choices. His methodology will attribute damages to pilots who would not have used their higher seniority

¹³⁴ Salamat Original Report at 38.

¹³⁵ Salamat 1/30/2013 Dep. at 154:3-4 (“pilots trade off lifestyle for income”). Similarly, the APA's explanation of Supplement CC noted that the St. Louis fence was “designed to preserve TWA pilots' opportunities . . . and to continue to have some of the quality of life (schedules, days off, vacations, etc.) that they had within the separate TWA operation . . .” (ALPA 008768) .

¹³⁶ Salamat Original Report at 17.

¹³⁷ Salamat Original Report at 17.

¹³⁸ Salamat Original Report at 18.

to earn more income, and attribute lower damages to some pilots who would have used their higher seniority to earn above the average income. Determining the proper amount of damages, if any, owed to an individual pilot requires individualized analysis of the pilot's historical choices and his or her expected choices in a different seniority rank.¹³⁹

108. These tradeoffs are evident in the working histories of the pilots at American after the transaction. The data on their experience between 2002 and 2012 shows that pilots often take voluntary leave (choose to be inactive) and that they choose to “bid down” and accept assignments on smaller planes and at lower pay rates than they were entitled to choose. I understand that they also may choose to be a “reserve” rather than a regular pilot.

109. Exhibit 12 shows that pilots with sufficient seniority to be eligible to fly are often inactive. There are times during the period April 2002 through 2012 when as much as eight percent of non-furloughed pilots are inactive. Some of these likely are “inactive” because of a lifestyle choice.¹⁴⁰ Individual considerations about how to use seniority are ignored in Mr. Salamat's analysis, so all TWA pilots that achieve sufficient seniority to be working are assumed to be active.

110. Exhibit 13 show the number of American pilots serving as First Officers who could have served in the higher position of Captain on the same equipment. It appears that these pilots choose to “bid down” and use their seniority for lower-paid positions.

111. Mitigation evidence collected by Plaintiffs provides further evidence of the individuality of pilots' choices. Exhibit 14 shows the distribution of set-off earnings across pilots. These vary by year even for individual pilots. If a pilot chooses to “mitigate” by enjoying leisure one year, Mr. Salamat assumes that pilot is entitled to damages, even if his or her employment record shows that he was working before and after (and thus provides no reason to think that pilot could not have been working during the year without income).

112. Although Plaintiffs claim to represent a class that includes all former TWA pilots, Exhibit 15 makes clear that Mr. Salamat is not claiming that all TWA pilots were harmed by the alleged

¹³⁹ In my evaluation of how the gains from the transaction were shared between the two pilot groups, I use Mr. Salamat's income schedule, which is based on his rolling-average methodology. My focus is on the aggregate differences in how the benefits were shared, and not the claimed damages owed to an individual pilot, so the use of the rolling average methodology is reasonable for my purpose.

¹⁴⁰ The exhibit excludes pilots classified as furloughed.

breach of duty. As shown in Exhibit 15, some TWA pilots were no worse off under Supplement CC than under Mr. Salamat's but-for list and, if they were furloughed or otherwise not working at American, some earned more in their alternative employment.

113. Thus, Mr. Salamat's damages methodology predicts that some pilots are no worse off and others harmed to various extents by the alleged conduct. The number falling in each category differs depending on which "but-for" list is used and what assumption is made about mitigation by TWA pilots who did not provide documentation. Thus, not all pilots are affected in a common way by ALPA's breach as presented by Mr. Salamat.

I. Mr. Salamat's Set-Off Calculation is Flawed

114. On April 30, 2013, Mr. Salamat submitted a report quantifying the amount by which former TWA pilots "set-off" or mitigated the damages that he estimated resulted from furloughs during the period 2002 to June 2012. His quantification was based on information submitted by former TWA pilots as of April 30, 2013 in response to a "TWA Pilot Questionnaire." The documents on which Mr. Salamat relies include written responses to the questionnaire, social security earnings reports ("SSERs"), W-2s and other IRS tax records, and potentially other supporting documents.

115. Mr. Salamat groups responses from pilots who were furloughed for at least part of a year into three broad categories. First, some pilots submitted information that he found to be "complete" (Category A).¹⁴¹ Second, some pilots submitted partial information, but "sufficient information was provided to estimate each pilot's income while on furlough" (Category B).¹⁴² Third, some pilots submitted information that was so inadequate that Mr. Salamat concluded that their "responses are equivalent to non-responses because a pilots' [sic] set-off income could not be calculated" (Category C).¹⁴³

116. According to Mr. Salamat, "one reason pilots may not have responded to the questionnaire is the possibility that the pilots believed the damages to have been set-off."¹⁴⁴ If those in Category C generally found new employment quickly and earned as much or more than

¹⁴¹ Salamat Set-Off Report at 2.

¹⁴² Salamat Set-Off Report at 1.

¹⁴³ Salamat Set-Off Report at 2.

¹⁴⁴ Salamat Set-Off Report at 5.

they would have if they were not furloughed, then the proper assumption would be that all their damages were set-off. However, Mr. Salamat wrongly claims that a “conservative” assumption is that the nonresponders set-off their damages at the “lower of the Category A and Category B percentages of set-off to total damages.”¹⁴⁵ A more conservative assumption, and one that is consistent with the pilots’ incentives to respond to the questionnaire, would assume that furlough damages for this group after set-off were zero – that these pilots effectively mitigated all their furlough damages and thus understood that they had nothing to gain by responding. At a minimum, it is reasonable to assume that non-responders (who have no incentive to respond if they expect to gain more by not responding) would have a lower percentage of set-off to total damages than pilots who submitted sufficient documentation to permit calculation of set-off damages. Mr. Salamat attributes about \$19 million in “lost income” damages and \$3 million in interest on those damages to these non-responders.

117. Mr. Salamat’s methodology for calculating set-off damages is to mitigate for each former TWA pilot the damages estimated for each year up to the amount of reported set-off income for that year. However, this unreasonably limits the amount of mitigation, because the relevant question is how much each pilot was harmed by the alleged breach of duty. If Mr. Salamat estimates that a furloughed pilot would have earned \$100,000 in each of five years but for the alleged breach, and that pilot actually earns \$0 in two of those years and \$250,000 in set-off income in each of the other three years, Mr. Salamat calculates damages of \$200,000 (\$100,000 in each of the two years during which he had no income). However, for the five years as a whole, the pilot earned \$750,000, which exceeds by \$250,000 the amount that he would have earned if he were not furloughed. Thus, the proper calculation for this pilot would be set-off damages of \$0. If I correct this error in Mr. Salamat’s methodology, his estimated damages decline by \$35.7 million.

¹⁴⁵ Salamat Set-Off Report at 5.

J. Mr. Salamat Ignores the Constraint on Damages from the Fixed Number of Total Jobs at American

118. Mr. Salamat ignores the constraint on damages resulting from the fixed number of total jobs available at American at a particular time by treating the number of seniority places above the furlough line as equivalent to the number of available pilot jobs. At any given time, a number of pilots who have sufficient seniority to remain working (i.e., are above the furlough line) are nevertheless inactive. To illustrate the error that Mr. Salamat makes, assume that there are 1,000 jobs and 2,000 pilots on the seniority list. If the 1,000 most senior pilots all want to and can fly, then the most junior active pilot will be seniority #1,000, and pilots #1,001 through 2,000 will be furloughed. In reality, however, pilots #1 through 1,000 are not all active, and whatever number are inactive corresponds to the additional number of seniority spaces that can hold active duty. So in this example, if 100 pilots with seniority numbers between 1 and 1,000 are inactive, then pilots with seniority at least through #1,100 will be needed to fill the 1,000 available jobs, and no more than 900 pilots will be furloughed.

119. Mr. Salamat does not take into account the implications of having inactive pilots on the American roster in his calculation of damages to the former TWA pilots who are higher on his hypothetical seniority lists than on Supplement CC. For example, assume that Mr. Salamat's hypothetical list moves 100 TWA pilots who had seniority ranks of 1,100 to 1,200 in the actual world (and were furloughed) into positions 1,000-1,100 (ranks that were not furloughed). If, in the actual world, 10 of the 100 pilots occupying these ranks had been inactive (on medical leave, voluntary leave, etc.), then pilots ranked 1,000-1,100 in the actual world were filling only 90 jobs—not the 100 jobs to which Mr. Salamat attributes damages.

120. The amount by which he overestimates the total number of jobs at American is shown in Exhibit 16. Eliminating these “extra” jobs reduces his DMODEL damages by about \$57 million.

K. Mr. Salamat Assumes Without Justification that Pilots on Voluntary Furlough Suffer Damages after 2012

121. According to Mr. Salamat,

[i]f a pilot was on furlough during a given period but would not have been under an alternative list, then the impact to the pilot is the total lost income for the period. However, there are situations where pilots are either on voluntary furlough or have bypassed recall. During the historic period, pilots on voluntary furlough have no impact calculated for them. At the end of the historic period, there were pilot who had bypassed

recall and were, therefore, on furlough by choice. It is uncertain whether these pilots will accept recall in the future or will resign. However, as these pilots still have the right to be recalled, and in that sense are the same as pilots who have not yet been offered recall, I have calculated damages for them as if they will return as soon as attrition will permit. These pilots have no damages attributed to them during the period they would remain on furlough.¹⁴⁶

Thus, Mr. Salamat makes the reasonable assumption that pilots who chose voluntary furlough for the years leading up to the end of the historic period and refused a recall when it was offered suffered no damages. However, “[a]t the end of the historic period, there were pilots who had bypassed recall and were, therefore, on furlough by choice. It is uncertain whether these pilots will accept recall in the future or will resign. However, as these pilots still have the right to be recalled, and in that sense are the same as pilots who have not yet been offered recall, I have calculated damages for them *as if they will return as soon as attrition will permit.*”¹⁴⁷ These pilots have no damages attributed to them during the period they would remain on furlough, but are assumed to return as “soon as attrition will permit,” and thus suffer damages after the historic period. A more reasonable assumption is that many of these pilots have found other employment or selected leisure, and would again refuse to be recalled. Thus, the \$35.2 million in discounted damages attributed to pilots on voluntary furlough likely is substantially overstated, and may even be zero.

L. Mr. Salamat’s Pension Calculations are Flawed

122. Mr. Salamat’s calculations of damages attributable to lost pension have three flaws.

123. First, American’s pension plans were frozen in November 2012.¹⁴⁸ Mr. Salamat’s pension calculations assume that pilots continued to accrue benefits under Plan B through 2026 as they had through 2011. This pension was frozen after Mr. Salamat submitted his original report, but he failed to take this into account when he submitted his Set-Off Report.

124. Second, Mr. Salamat assumes that Pension Plan B grows at seven percent annually, and he discounts pension earnings at a rate of 2.5 percent.¹⁴⁹ (I explain below why Mr. Salamat’s

¹⁴⁶ Salamat Original Report at 44-45.

¹⁴⁷ Salamat Original Report at 44-45 (emphasis added).

¹⁴⁸ <http://www.restructuringamr.com/our-people-retirement.asp>. (“American froze all of its defined benefit pension plans and its pilot B Plan on Nov. 1, 2012. Following the freeze, the company terminated the pilot B Plan on Nov. 30, 2012.”)

¹⁴⁹ Salamat Original Report at 47.

assumed discount rate is wrong.) In addition, his assumption that pension earnings grow at a seven percent rate, while discounting those benefits at 2.5 percent, implies that each dollar of pension benefits is worth more than a dollar, with the increase in value growing with the number of years to retirement. For example, according to Mr. Salamat's methodology, a dollar of pension contribution for a pilot that expects to retire in 30 years is worth 3.6 times as much as a dollar paid in salary. This causes him to overestimate the contribution of pension losses to damages by about \$86 million.

125. Third, Mr. Salamat incorrectly calculates the annuity value of the retirement benefits by assuming all retirees will live with certainty until the expected age of death. This too causes him to overstate the value of the TWA pilots' pension losses.

M. Mr. Salamat Does Not Discount Future Compensation Properly

126. Mr. Salamat discounts future damages back to January 1, 2013 at a discount rate of 2.5 percent. He does not explain why he chose this rate, but it is inconsistent with economics. A purpose of discounting future compensation is that these income flows are risky – there is no guarantee that they will be received. The history of both TWA and American illustrates that uncertainty and risk are important elements of employment in the airline industry. The proper discount rate for future earnings reflects the riskiness of the employer, which is reflected in American's weighted average cost of capital ("WACC").

127. Mr. Salamat also errs in calculating pre-judgment interest. He uses the U.S. Department of Labor Bureau of Labor Statistics Consumer Price Index (CPI-U) rather than an interest rate. Since there is no uncertainty about past compensation losses (or realized damages), it is appropriate to use a risk-free rate when calculating interest on past damages.¹⁵⁰

128. The combined impact of (1) discounting future damages using American's WACC and (2) using the risk-free rate to calculate interest on past damages is to inflate Mr. Salamat's estimated damages under DMODEL by \$47 million.

¹⁵⁰ Lanzilloti and Esquibel, "Measuring Damages in Commercial Litigation: Present Value of Lost Opportunities," J. Accounting, Auditing & Finance (1990) 125, 132-134.

VII. PROFESSOR FARBER'S HYPOTHETICAL SENIORITY LIST IS UNREASONABLE AND HIS METHODOLOGY IS FLAWED

A. Summary of Professor Farber's Opinions

129. Professor Farber says that Plaintiffs asked him “to analyze American’s acquisition of TWA and to generate an estimate of a merged seniority list that would have resulted . . . had ALPA met its duty of fair representation.”¹⁵¹ His methodology is to “define a metric for measuring how well pilots fare when seniority lists are merged” – a statistic he refers to as the proportional difference in mean ranks. He “calculate[s] this metric for those seniority list merges for which I was able to get the relevant information from arbitration awards or agreements” and for Supplement CC.

130. He then evaluates whether the metric for Supplement CC differs from that of what he deems to be “comparable mergers.”¹⁵² He concludes that “the placement of [TWA’s] former pilots on the merged seniority list was unusually unfavorable, on average.”¹⁵³ Using seven selected “comparable mergers” and making a variety of other assumptions, he then creates a but-for merged seniority list that achieves the same value of the proportional difference in mean ranks as the average of his selected comparables. This proposed list:

- a) Has no top staple (i.e., no group of American pilots at the top of the list above the first merged TWA pilot);
- b) A bottom staple of 350 TWA pilots; and
- c) 1,887 TWA pilots merged with the American pilots in a ratio of 5.81:1.¹⁵⁴

131. Professor Farber does not calculate damages based on his list, or on alternative upper and lower bound but-for lists that he provides based on the second highest and second lowest of his selected comparables (ranked by proportional difference in mean ranks). However, Mr. Salamat

¹⁵¹ Farber Report ¶8.

¹⁵² Farber Report ¶55. “Comparable mergers” are identified by Professor Farber as meeting two criteria: (1) the acquired airline was in financial difficulty, but still flying; and (2) the acquired airline brought valuable assets to the combined company (Farber Report ¶10).

¹⁵³ Farber Report ¶54.

¹⁵⁴ The major differences between Professor Farber and Mr. Salamat’s respective proposed lists are summarized in Exhibit 17.

estimates damages associated with Professor Farber's three but-for lists that range from \$753.2 million (lower bound) to \$1.08 billion (upper bound) after set-offs to account for mitigation.¹⁵⁵

B. Professor Farber's Hypothesized Seniority List is Inconsistent with the Economics of Bargaining

132. Professor Farber's preferred but-for seniority list would result in all but 350 TWA pilots having improved seniority relative to Supplement CC. I showed above in Exhibit 9 that his hypothetical list is inconsistent with the economics of bargaining because under this list the TWA pilots would obtain more than 100 percent of the gains from the integration, and the American pilots would be worse off with than without the integration. Given the bargaining situation that existed, the economics of bargaining predicts that the American pilots never would have agreed to such a list.

C. According To His Own Criteria, Professor Farber Uses Mergers that are Not Comparable

133. Professor Farber says that he identified "comparable" seniority lists as benchmarks to evaluate the American/TWA integrated seniority list by assuming that TWA was financially viable. However, Mr. Levine and Mr. Feltman explained that the assumption that TWA was financially viable is invalid.¹⁵⁶ Professor Farber admitted at his deposition that "I would have had to select my comparables differently" if it were likely that "TWA would have liquidated shortly after January 2001 in the absence of an American transaction."¹⁵⁷ He explained that "one of the factors we considered in choosing comparable merger lists was the financial condition of the acquired carrier. And as a result, in order to make them comparable, we tried to find cases where — with some, at a crude level, similarity with TWA's financial condition. So, of course, TWA's financial condition was relevant."¹⁵⁸

134. Thus, Professor Farber uses seniority lists from other mergers that, according to his own criteria, were not comparable to the American/TWA transaction. In particular, he uses benchmark seniority lists where the merged party that he claims is an appropriate proxy for

¹⁵⁵ Salamat Set-Off Report, Figure 7, at 12.

¹⁵⁶ Levine Report at 9; Feltman Report at 4-5.

¹⁵⁷ Farber Dep. 1/22/2013 at 138:25-139:8.

¹⁵⁸ Farber Dep. 1/22/2013 at 75:12-19.

TWA was an ongoing airline and its pilots had better future prospects (even through bankruptcy and reorganization) than did the TWA pilots.

D. Professor Farber Uses Arbitrated Outcomes Even Though the TWA Pilots Had No Right to Arbitration

135. According to Professor Farber, it is reasonable to assume that ALPA, in its fair representation of the TWA pilots, would have been guided in its negotiations with the American pilots by the ALPA merger policy in place at the time of American's acquisition of TWA assets.¹⁵⁹ Professor Farber quotes the ALPA merger policy statement that "[t]he Fundamental purpose of this policy is to provide protection for the employment rights and interests of ALPA flight deck crew members in an orderly, expeditious and equitable manner," "using arbitration if necessary."¹⁶⁰ However, I am not aware of any evidence, and certainly Professor Farber presents none, that arbitration was a likely or even a possible outcome here. Instead, I understand that the TWA pilots waived any right to arbitration, and that doing so was a condition American put on the deal because arbitration of seniority integration disputes was not consistent with the American pilots' CBA. Thus, Professor Farber's reliance on arbitrated decisions as benchmarks for integration when the acquired party has no right to arbitration is not justified.¹⁶¹

E. Professor Farber Uses a Statistical Measure that has Not Been Applied in Evaluating Seniority List Integrations

136. Professor Farber asserts that the metric he uses to evaluate the reasonableness of Supplement CC— "the proportional difference between the mean seniority rank of pilots"— is "a standard measure of disparities between groups and of changes over time in key variables," and says it is widely used in academic literature.¹⁶² However, the literature he cites as support for use of this metric simply explains and provides examples showing that academic researchers compare means of data in their analyses. It provides no support for the methodology Professor Farber applies here.

137. Professor Farber has no evidence that this metric is used, or would be useful, in evaluating potential seniority list mergers of airline pilots. The arbitrated agreements on which

¹⁵⁹ Farber Report ¶20.

¹⁶⁰ Farber Report ¶20.

¹⁶¹ Professor Farber does not even purport to explain how any actions that ALPA might have taken would have affected negotiations with the APA.

¹⁶² Farber Report ¶42.

he relies show the variety of considerations that arbitrators typically consider when deciding how to combine two carriers' seniority lists, including the airlines' history and differences in pilot tenure, status (captains vs. first officers), types of aircraft flown, type of service provided, etc. These considerations are unlikely to be captured in any reasonable way by a simple statistic such as proportional difference in mean rank. I am not aware of the arbitrator in any of these mergers considering the proportional difference in mean rank between the pilots of the acquired and acquiring airline.

138. Moreover, in devising his metric and applying it to each of the transactions in his sample, Professor Farber does not account for conditions and restrictions incorporated in the underlying seniority integrations, such as the St. Louis fence. I understand that such conditions and restrictions are a common feature in integrated seniority lists. As with the St. Louis fence, conditions and restrictions can affect the opportunities available to pilots, mitigating the disparities in seniority rankings between the pilot groups by altering how pilots may use their seniority. Thus, by analyzing the seniority list without considering the full context in which it was implemented, Professor Farber's measure of "proportional difference in mean ranks" exaggerates (or, possibly in some cases, diminishes) the actual disparities between the integrated pilot groups.

F. Professor Farber Wrongly Applies his Choice of "Comparables"

139. Professor Farber uses the proportional difference in mean ranks to create a but-for seniority list "that would have resulted from the combination of the two airlines had ALPA met its duty of fair representation."¹⁶³ Yet his own analysis, even using his improperly selected "comparable" transactions, shows that Supplement CC is consistent with the result that his methodology predicts would have obtained if ALPA had met its duty of fair representation. It is only slightly "worse" than one of his selected list of seven comparables (the Alaska/Jet America merger). And Supplement CC is no "worse" than two other arbitrated mergers evaluated using Professor Farber's metric. Since he uses these as benchmarks, I assume that he would agree that they were not affected by a union's failure to fulfill its duty of fair representation.¹⁶⁴ Logically,

¹⁶³ Farber Report ¶8.

¹⁶⁴ Professor Farber's logic appears to be that arbitration always results in an outcome that properly weighs the value that the two parties bring to the merger, which presumably is the best that can be expected when a union fulfills its duty of fair representation.

they would represent outcomes consistent with ALPA meeting its duty of fair representation, which means that Supplement CC was within the range of such outcomes.

140. Professor Farber wrongly claims that the but-for seniority list must have the same proportional difference in mean ranks as the *average* calculated from several “comparable” mergers (or, for his “lower bound” estimate, the merger with the second lowest proportional difference in mean ranks), even though any seniority list that falls in the range of his “comparables” is a reasonable outcome that is consistent with a process in which both negotiating parties met their duty of fair representation. Indeed, if he had selected more appropriate comparables – those in which, as Mr. Levine explains, the acquired airline was “no longer viable as a standalone airline”¹⁶⁵ – he would have found that Supplement CC was well within the range of outcomes (based on his metric) that an arbitrator would have imposed (as I discuss below).¹⁶⁶

G. Professor Farber’s Conclusions are Inconsistent With Those of Mr. Salamat

141. Mr. Salamat’s opinion about the likely impact of ALPA’s failure in its duty of fair representation contradicts the claims of Professor Farber. Mr. Salamat says that his ARBITRATED list, which he derives by reviewing a variety of arbitrated agreements (a methodology similar to that used by Professor Farber), “must be considered the limit of what the APA would have agreed to.”¹⁶⁷ In other words, he considers this outcome the best possible outcome for the TWA pilots from negotiations if ALPA had not breached its duty. Yet, Professor Farber’s but-for seniority list gives the TWA pilots even more than they would receive under Mr. Salamat’s arbitrated list (\$931.5 million vs. \$798.3 million, respectively).¹⁶⁸ Thus, Mr. Salamat’s own opinion implies that Professor Farber’s proposed list is more favorable to the TWA pilots than any list to which the American pilots would have been willing to agree if ALPA had fulfilled its duty.

¹⁶⁵ Levine Report at 9.

¹⁶⁶ Professor Farber rejects without proper justification two potential benchmarks with a lower proportional difference in mean ranks than he calculates for the American/TWA merger: the Republic/Lynx merger, because he claims that Lynx was able to continue flying only because of an influx of cash from Republic, even though this was effectively the same position in which TWA found itself in early 2001; and the Southwest/Air Tran merger for the unprincipled reason that “I have not been able to determine why former Airtran [sic] pilots were placed so low on their post-transaction seniority list” (Farber Report ¶51 (fn. 36)).

¹⁶⁷ Salamat Original Report at 15.

¹⁶⁸ Salamat Set-Off Report at 11-12.

142. Mr. Salamat did not quantify the probability that the ARBITRATED List would have been achieved. Given that it is considerably more favorable to the TWA pilots (and less favorable to the American pilots) than the DMODEL, Mr. Salamat's logic suggests that a list resembling the ARBITRATED List is less likely to be achieved than the "73%" probability of achieving DMODEL.¹⁶⁹

H. Professor Farber Imposes an Unreasonable Structure on his Proposed But-For Seniority List

143. Professor Farber makes unsupported and counterfactual assumptions about (1) the size of the bottom staple; (2) the absence of a top staple and (3) the merge ratio. He says that, in order to implement his proportional mean difference metric to derive a merge ratio, he must assume either a bottom or top staple, but not both.¹⁷⁰ However, he contradicted this at his deposition, where he claimed (1) that the size of the bottom staple was determined by his merge ratio¹⁷¹ and (2) that he could have assumed both a top and bottom staple.¹⁷² Professor Farber's assumed bottom staple of 350 pilots is arbitrary, and is inconsistent with Mr. Salamat's proposal to staple 464 TWA pilots¹⁷³ and with the TWA MEC's October offer to staple 597 TWA pilots at the bottom of the merged seniority list.¹⁷⁴ His assumption of no top staple is inconsistent with the history of negotiations, in which both sides accepted that the TWA pilots had no pre-transaction expectation of flying large wide-body planes, and with a negotiated outcome in which the only way in which American pilots with high seniority can avoid being harmed is by maintaining their seniority rank and having TWA pilots placed below them.

¹⁶⁹ Mr. Salamat's way of adjusting his damages estimates for the probability that the identified actions would achieve his list means that the damages associated with a particular list could decline the more favorable the list to the TWA pilots. If there is only a one percent probability of reaching the ARBITRATED list associated with each form of influence, then the methodology he applies to determine that ALPA is "liable for \$647,808,701 in unmitigated damages" would result in multiplying his ARBITRATED list damages by an aggregated 20 percent probability, resulting in "unmitigated damages" considerably smaller than those associated with his preferred model. In other words, to the extent that there is a lower probability of achieving more favorable lists, the damages associated with a list that is more favorable to the TWA pilots could be lower than damages associated with more favorable lists.

¹⁷⁰ At his deposition, he contradicts himself and says that he could have assumed both. Farber Report ¶57. ("A seniority list with a proportional difference in mean ranks of -0.15 can be prepared with either a bottom staple of former TWA pilots or a top staple of American pilots and a ratio of the remaining pilots.") Farber Dep. 1/22/2013 at 97:14-16. ("Could you have had a top staple and a bottom staple? A: Absolutely.")

¹⁷¹ Farber Dep. 1/22/2013 at 225:17-24.

¹⁷² Farber Dep. 1/22/2013 at 97:14-16.

¹⁷³ Salamat Original Report at 32.

¹⁷⁴ Position Statement of APA, at footnote 18, at ALPA 015311.

I. Small and Necessary Changes to Professor Farber's Calculations Show that His Methodology Predicts Almost No Damages

144. There are two fundamental problems with Professor Farber's analysis and with Mr. Salamat's calculation of damages based on Professor Farber's proposed seniority list that easily can be corrected. First, Professor Farber does not include a top staple, even though he admitted that he could have done so. Second, he selected as "comparables" transactions in which the acquired airline was not in the same financial condition as TWA – i.e., was not on the verge of liquidation.

145. There are three transactions on Professor Farber's list that he claims involved an acquired carrier that was no longer flying, or was flying only because it received financial help from the acquiring company: Continental's acquisition of Frontier; Republic's acquisition of Midwest; and Republic's acquisition of Lynx.¹⁷⁵ At the time that American agreed to acquire certain TWA assets, of the acquisition, TWA also was on the verge of ceasing operations and liquidating and was only able to fulfill its financial obligations to maintain day-to-day operations as a result of the DIP financing provided by American.¹⁷⁶ Applying Mr. Farber's criteria for selecting comparable transactions, based on Mr. Levine's and Mr. Feltman's assessment of TWA's financial condition, these three are the most "comparable" to the American/TWA merger as Professor Farber defines comparability.¹⁷⁷ The American/TWA transaction is within the range of these "comparables." The average and median proportional difference in mean ranks of the three "comparables" (based on Professor Farber's calculations of that metric for these transactions) are lower than the proportional difference in mean ranks under Supplement CC.

¹⁷⁵ "There are four mergers aside from American/TWA in Table 1 with proportional differences in mean rank of - 0.60 or smaller (larger than 0.60 in absolute value): Republic/Lynx, Southwest/Airtran, Republic/Midwest and Continental/Frontier. Lynx and Midwest were so weak financially at the time of their acquisitions that each was only flying because of financial assistance from Republic. The experience of the former pilots of the first Frontier Airlines reflects the fact that, at the time it was acquired by Continental, Frontier was grounded and all of its pilots were on furlough" (Farber Report ¶¶51-52). As Professor Farber notes, "the seniority lists of Republic, Frontier, Midwest and Lynx were merged in a single arbitration." (Farber Report at Table 1 note (c).) However, as he analyzed separately the "proportional difference in mean rank" in seniority for each of the acquired airline's pilots, I have done the same in this correction of his analysis.

¹⁷⁶ Feltman Report at 33-34; Levine Report at 23-24.

¹⁷⁷ According to Professor Farber, "I chose my group of comparable mergers by looking for transactions in which the acquired airline was in weakened financial condition, but still flying, and contributed substantial assets to the combined airline. To determine which transactions met these criteria I relied primarily on statements in arbitrators' reports" (Farber Report ¶56).

This indicates (according to Professor Farber's methodology) that Supplement CC was consistent with the result one would expect if ALPA had fulfilled its duty of fair representation.

146. Exhibit 18 shows the results from Professor Farber's methodology combined with Mr. Salamat's calculation of purported damages after correcting these errors. I use the average of these three comparables, correct Professor Farber's mistake in ignoring the top staple, assume that the merged seniority list would have the same top staple as Supplement CC, and then determine the combination of bottom staple and merge ratio that yields a proportional difference in mean ranks equal to the average of these three mergers (-0.634). If Supplement CC were modified according to this approach, I find that eight additional TWA pilots would have been merged with the American pilots, rather than stapled. Using Mr. Salamat's methodology for calculating damages, these changes in the overall seniority list result in \$2.8 million in purported damages.¹⁷⁸

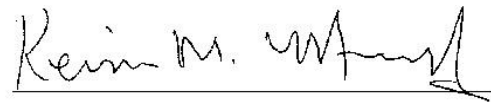
147. For the reasons set forth above, it is my opinion that Supplement CC was consistent with the economics of bargaining which is consistent with the TWA pilots suffering no damages as a result of its implementation. Further, I have pointed out many flaws that render Professor Farber's and Mr. Salamat's methods unreliable for calculating damages in this case. Nevertheless, if one were to accept the approach that Mr. Salamat takes to calculating damages based on Professor Farber's hypothetical seniority list – correcting only the two glaring errors described above – then Professor Farber's analysis implies that Supplement CC negatively affected the TWA pilots by a total of \$2.8 million.

VIII. IMPACT OF DATE LIMITATION ON MR. SALAMAT'S DAMAGE CALCULATIONS

148. My analysis shows that Supplement CC gave the TWA pilots a reasonable share of the benefits from integrating the American and TWA pilots. Thus, there is no support in the economics of bargaining and negotiation to suggest that the TWA pilots have been damaged. Counsel for ALPA nonetheless has asked me to calculate damages implied by Mr. Salamat's methodology through April 2003, the date on which a new Collective Bargaining Agreement

¹⁷⁸ For purposes of this exercise I have not corrected the errors in Mr. Salamat's calculations that I discussed in Section VI.

negotiated by the APA with American Airlines became effective. As shown in Exhibit 19, damages under the Mr. Salamat's DMODEL through April 2003 (correcting Mr. Salamat's pension and interest rate calculations) are \$30.3 million, or \$16.2 million if adjusted by a probability factor (corrected for his arithmetical error) that is based on Mr. Salamat's unfounded assumptions about the impact that certain ALPA actions would have had on the negotiated outcome.

A handwritten signature in black ink, reading "Kevin M. Murphy". The signature is written in a cursive, flowing style with a horizontal line underneath the name.

Kevin M. Murphy

June 7, 2013

Exhibit 1 - Combined American and TWA Fleet as of December 31, 2001

	American	TWA	TWA Share
Large Wide-body	47	0	0.00%
Small Wide-body	239	36	13.09%
Narrow-body	452	133	22.74%
Total	738	169	

Sources: 2001-08-14 KPMG Report_001.pdf; Hefley Notes - 4-18-01.pdf; Hefley Notes - 8-20--30-01.pdf.

Exhibit 2
American Manning Rates (Pilots per Plane)

	AMR
Large Wide-body	23.05
Small Wide-body	15.22
Narrow-body	12.07

Sources: Letter from White to Valtin, 8/20/2001 (ALPA030054); 2001-08-14 KPMG Report_001.pdf; Hefley Notes - 4-18-01.pdf; Hefley Notes - 8-20--30-01.pdf; Salamat backup materials.

Note: Manning rates employ a weighted average based on aircraft type and number of planes. The manning rate calculation considers only working line pilots and thus CKA/SUPV are not included.

Exhibit 3 - Estimated Jobs Brought by TWA to the Merged Firm

	American	TWA	Combined	TWA Share of Jobs
Large Wide-body	1083	0	1083	0.00%
Small Wide-body	3638	569	4207	13.52%
Narrow-body	5456	1500	6956	21.56%
Total	10234	2080	12314	

Sources: Letter from White to Valtin, 8/20/2001 (ALPA030054); 2001-08-14 KPMG Report_001.pdf; Hefley Notes - 4-18-01.pdf; Hefley Notes - 8-20--30-01.pdf; Salamat backup materials.

Exhibit 4

Comparison of American and TWA Top of Schedule Captain Rates As of 8/31/00

Company	Plane Type	# of Planes as of 2001	Captain TOS Rate
AMERICAN¹			
			12 YOS As of 8/31/00²
	Airbus A300-600R	34	\$201.64
	Boeing 727-200	33	\$182.72
	Boeing 737-800	77	\$186.52
	Boeing 757-200	117	\$195.64
	Boeing 767-200	8	\$198.11
	Boeing 767-200 Extended Range	21	\$199.67
	Boeing 767-300 Extended Range	49	\$201.64
	Fokker 100	74	\$168.74
	MD-80	259	\$181.58
		Weighted Average Rate:	\$186.48
TWA			
			15 YOS as of 9/1/00
	Boeing 717-200	30	\$125.06
	Boeing 757-200	27	\$135.63
	Boeing 767-300 Extended Range	9	\$135.63
	MD-80	103	\$125.06
		Weighted Average Rate:	\$127.31
American TOS Rate / TWA TOS Rate:			146%

Notes: ¹Includes only American planes that are similar to TWA planes.

²Not adjusted for the difference in maximum hours under the CBAs at TWA and American.

Sources: 10K Filings; Hiring FAPAAero EFA Rates.xlsx; D-137.pdf

Exhibit 5

Comparison of American and TWA Top of Schedule Captain Rates As of 8/31/00

*Rates Adjusted for Difference in Maximum Flying Hours
at TWA and American*

Company	Plane Type	# of Planes as of 2001	Captain TOS Rate
AMERICAN¹			
			12 YOS As of 8/31/00²
	Airbus A300-600R	34	\$176.36
	Boeing 727-200	33	\$159.81
	Boeing 737-800	77	\$163.14
	Boeing 757-200	117	\$171.11
	Boeing 767-200	8	\$173.27
	Boeing 767-200 Extended Range	21	\$174.64
	Boeing 767-300 Extended Range	49	\$176.36
	Fokker 100	74	\$147.59
	MD-80	259	\$158.82
		Weighted Average Rate:	\$163.10
TWA			
			15 YOS as of 9/1/00
	Boeing 717-200	30	\$125.06
	Boeing 757-200	27	\$135.63
	Boeing 767-300 Extended Range	9	\$135.63
	MD-80	103	\$125.06
		Weighted Average Rate:	\$127.31
American TOS Rate / TWA TOS Rate:			128%

Notes: ¹Includes only American planes that are similar to TWA planes.

²Actual rates multiplied by 0.8746 to account for the difference in maximum hours under the CBAs at TWA and American.

Sources: 10K Filings; Hiring FAPAAero EFA Rates.xlsx; D-137.pdf

Exhibit 6.A

**Comparable Captain Top of Schedule Rates
Across Airlines in Late 2000
B737s**

Airline	As Of	TOS Year	Hourly Rate
AIRTRAN	04/01/01	9	122.84
TWA	09/01/00	15	125.06
AMERICA WEST	04/29/00	15	124.07
SOUTHWEST	09/01/00	12	137.67
ALASKA	05/01/01	12	156.05
CONTINENTAL	10/01/00	12	165.05
AMERICAN	08/31/00	12	175.31
DELTA	05/01/01	12	193.86
UNITED	05/01/01	12	199.41

Notes:

[1] American B737 rate is averaged over B737-200, B737-300 and B737-800

[2] Delta B737 rate is averaged over B737-200 DLX, B737-300, B737-300G, B737-700DLX and B737-NG

[3] United B737 rate is averaged over B737-200 and B737-300/500

[4] Continental B737 rate is weighted 3:6 Large Narrowbody to Small Narrowbody.

[5] AirTran B737 rate is weighted 3:6 Large Narrowbody to Small Narrowbody.

[6] TWA Rate for Captains at TOS for Narrowbody aircrafts (which includes B737), as of 9/1/2000, was used (ALPA 040201).

Source: Hiring FAPAAero EFA Rates.xlsx; D-137.pdf.

Exhibit 6.B

**Comparable Captain Top of Schedule Rates
Across Airlines in Late 2000**

B757s

Airline	As Of	TOS Year	Hourly Rate
ATA	09/23/99	12	114.82
AIRTRAN	04/01/01	9	133.05
AMERICA WEST	04/29/00	15	124.07
TWA	09/01/00	15	135.63
CONTINENTAL	10/01/00	12	176.91
NORTHWEST	09/13/00	12	193.70
AMERICAN	08/31/00	12	195.64
UNITED	05/01/01	12	232.11
DELTA	05/01/01	12	234.42

Source: Hiring FAPAAero EFA Rates.xlsx; D-137.pdf.

Exhibit 6.C

First Officer Year One through Year Four Schedule Rates Compared to TWA TOS Rate in Late 2000 B737s

Airline	As Of	Year 1	Year 2	Year 3	Year 4	Year 15
TWA TOS CAPTAIN	09/01/00					125.06
AIRTRAN	04/01/01	35.50	46.95	50.08	58.88	
AMERICA WEST	04/29/00	34.23	53.71	59.79	66.01	
SOUTHWEST	09/01/00	36.39	61.40	68.36	75.47	
ALASKA	05/01/01	32.52	72.39	88.15	93.17	
CONTINENTAL	10/01/00	N/A	62.19	73.21	82.93	
AMERICAN	08/31/00	33.92	60.00	67.02	100.52	
DELTA	05/01/01	50.00	94.09	110.30	113.19	
UNITED	05/01/01	47.63	75.38	109.42	116.18	

Notes:

[1] American B737 rate is averaged over B737-200, B737-300 and B737-800

[2] Delta B737 rate is averaged over B737-200 DLX, B737-300, B737-300G, B737-700DLX and B737-NG

[3] United B737 rate is averaged over B737-200 and B737-300/500

[4] Continental B737 rate is weighted 3:6 Large Narrowbody to Small Narrowbody.

[5] AirTran B737 rate is weighted 3:6 Large Narrowbody to Small Narrowbody.

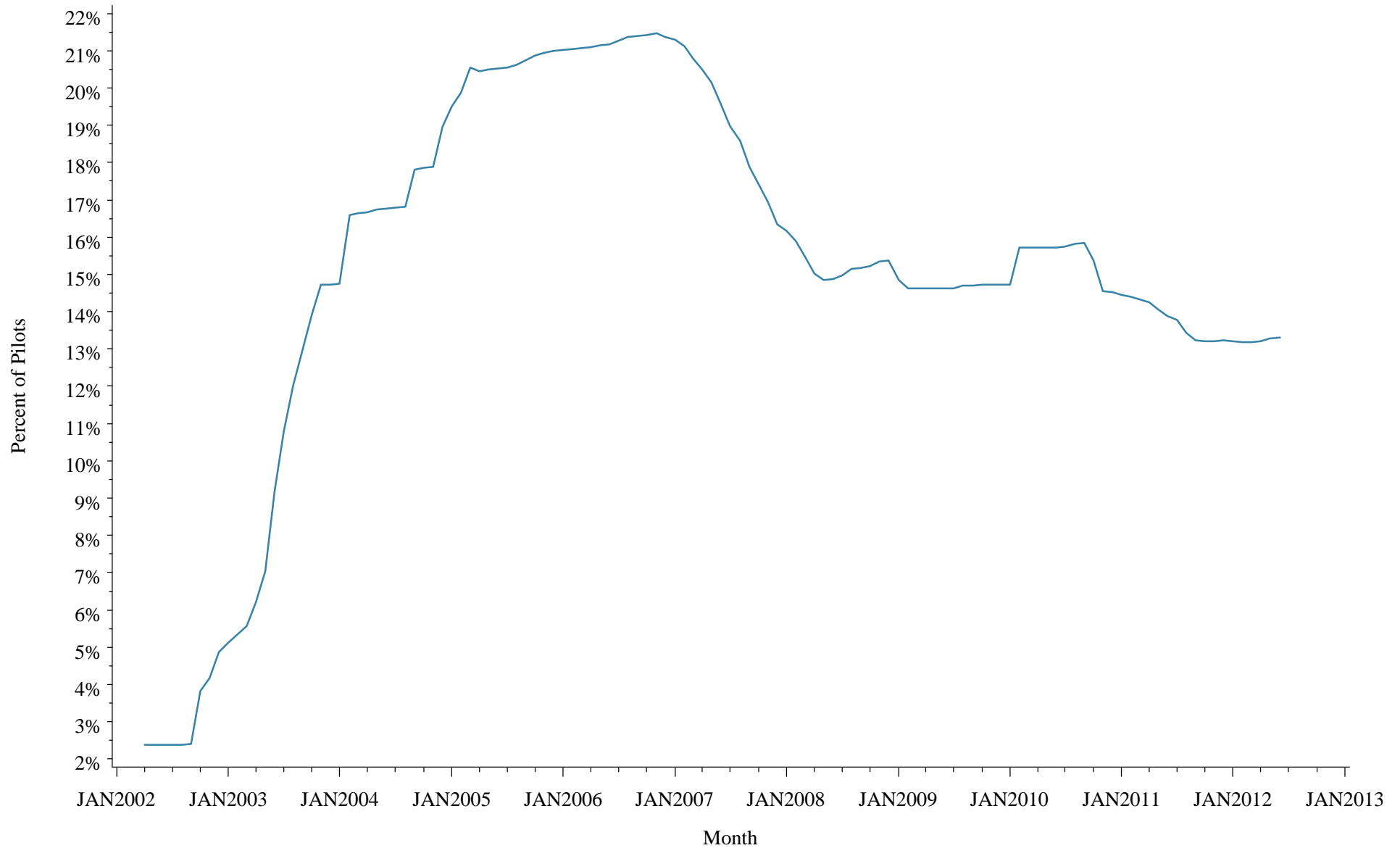
[6] TWA Rate is for top of the schedule Captain, flying B737, whereas Year 1 through 4 rates are comparable FO rates at competing airlines.

[7] TWA Rate for Captains at TOS for Narrowbody aircrafts (which includes B737), as of 9/1/2000, was used (ALPA 040201).

Source: Hiring FAPAAero EFA Rates.xlsx; D-137.pdf.

Exhibit 7

Furloughed Pilots as a Percentage of all Pilots at Combined Airline



Notes: Pilots with permstat = 'Deceased' or 'Retired' omitted.
Source: Salamat EMPHIST database.

Exhibit 8.A - Sharing of Total Merger Gains

	(1) Supplement CC Excluding TWA Pilots' Pay Gain		(2) Supplement CC Including TWA Pilots' Pay Gain	
	Prospective Evaluation	Evaluation with Hindsight	Prospective Evaluation	Evaluation with Hindsight
American Gain	\$556,799,235	\$513,985,194	\$556,799,235	\$513,985,194
TWA Gain	\$507,253,709	\$297,276,828	\$824,923,629	\$375,336,991
AMR Share of Gains	52%	63%	40%	58%
TWA Share of Gains	48%	37%	60%	42%
American Gain per Pilot	\$48,216.08	\$44,508.59	\$48,216.08	\$44,508.59
TWA Gain per Pilot	\$217,053.36	\$127,204.46	\$352,984.01	\$160,606.33

Note: There are 11,548 American pilots and 2,337 TWA pilots on the original seniority list (11,548 excludes American pilots stapled to the bottom of the list after the last TWA pilot).

Exhibit 8.B - Sharing of Total Merger Gains

	(1) Dmodel Excluding TWA Pilots' Pay Gain		(2) Dmodel Including TWA Pilots' Pay Gain	
	Prospective Evaluation	Evaluation with Hindsight	Prospective Evaluation	Evaluation with Hindsight
American Gain	-\$355,903,138	\$63,645,009	-\$355,903,138	\$63,645,009
TWA Gain	\$1,377,263,176	\$714,503,681	\$1,694,933,097	\$792,563,844
AMR Share of Gains	-35%	8%	-27%	7%
TWA Share of Gains	135%	92%	127%	93%
American Gain per Pilot	-\$30,819.46	\$5,511.34	-\$30,819.46	\$5,511.34
TWA Gain per Pilot	\$589,329.56	\$305,735.42	\$725,260.20	\$339,137.29

Note: There are 11,548 American pilots and 2,337 TWA pilots on the original seniority list (11,548 excludes American pilots stapled to the bottom of the list after the last TWA pilot).

Exhibit 9.A - Sharing of Total Merger Gains Excluding TWA Pilots' Pay Gain

	Prospective Evaluation		Evaluation with Hindsight	
	Share of Gains to American	Share of Gains to TWA	Share of Gains to American	Share of Gains to TWA
SuppCC	52%	48%	63%	37%
Dmodel	-35%	135%	8%	92%
ARBModel	-54%	154%	-15%	115%
Farber1	-75%	175%	-32%	132%
Farber2	-98%	198%	-49%	149%
Farber3	-50%	150%	-13%	113%
ioptimal	-88%	188%	-43%	143%
SuppCC200	25%	75%	51%	49%
Tannen	-112%	212%	-58%	158%

Note: There are 11,548 American pilots and 2,337 TWA pilots on the original seniority list (11,548 excludes American pilots stapled to the bottom of the list after the last TWA pilot).

Exhibit 9.B - Sharing of Total Merger Gains Including TWA Pilots' Pay Gain

	Prospective Evaluation		Evaluation with Hindsight	
	Share of Gains to American	Share of Gains to TWA	Share of Gains to American	Share of Gains to TWA
SuppCC	40%	60%	58%	42%
Dmodel	-27%	127%	7%	93%
ARBModel	-72%	172%	-15%	115%
Farber1	-100%	200%	-32%	132%
Farber2	-132%	232%	-49%	149%
Farber3	-67%	167%	-13%	113%
ioptimal	-119%	219%	-43%	143%
SuppCC200	33%	67%	51%	49%
Tannen	-152%	252%	-58%	158%

Note: There are 11,548 American pilots and 2,337 TWA pilots on the original seniority list (11,548 excludes American pilots stapled to the bottom of the list after the last TWA pilot).

Exhibit 10

Salamat Figure 3 - Corrected Cumulative Probability Calculation

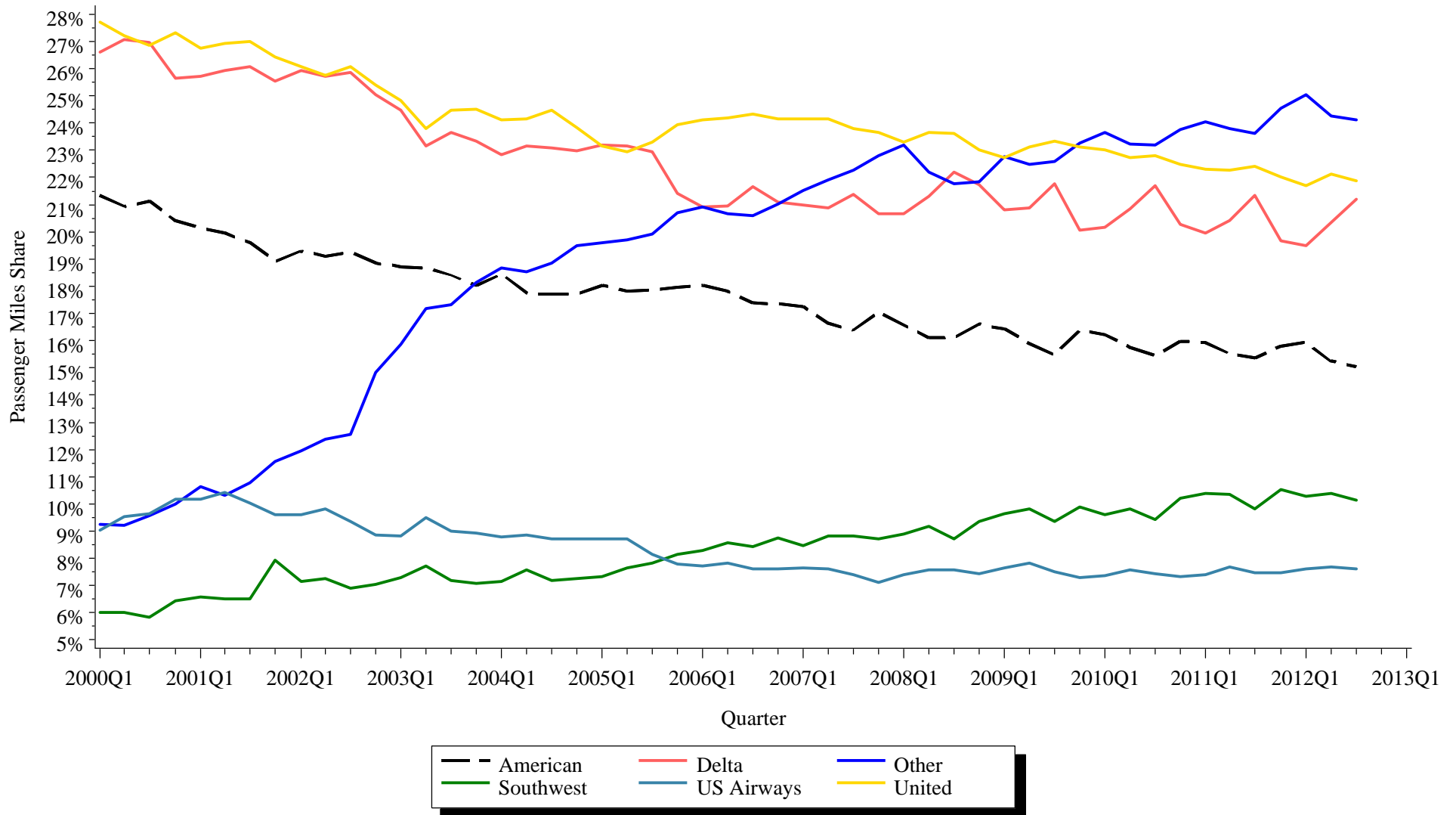
Action	Δ Importance	Δ Perception	Abandonment	Total	Cumulative Probability	
					Original	Revised
Insist on Waiving Scope		5%		5.0%	5.0%	5.0%
Denied April 2001 Legal Strategy: Delay Purchase	3%	5%		8.0%	13.0%	12.6%
Denied July 2001 Legal Strategy: Sue American and APA	3%	5%	2%	10.0%	23.0%	21.3%
Denied October 2001 Legal Strategy: Injunction		5%		5.0%	28.0%	25.3%
Denied October 2001 Legal Strategy: Case, APA Injunction	3%		2%	5.0%	33.0%	29.0%
Refuse to request DOT make fair process condition of purchase	3%	5%	2%	10.0%	43.0%	36.1%
Refuse to request AFL-CIO support		5%		5.0%	48.0%	39.3%
Refuse to block APA pilots from ALPA jumpseats	3%	5%	2%	10.0%	58.0%	45.4%
Deny TWA pilots have right to strike		5%		5.0%	63.0%	48.1%
Failure to Support TWA Pilots	3%	5%	2%	10.0%	73.0%	53.3%

Source: Salamat Report - 2012-10-12.pdf

Exhibit 11

Share of All Passenger Miles for Major Airlines

2000Q1 - 2012Q3

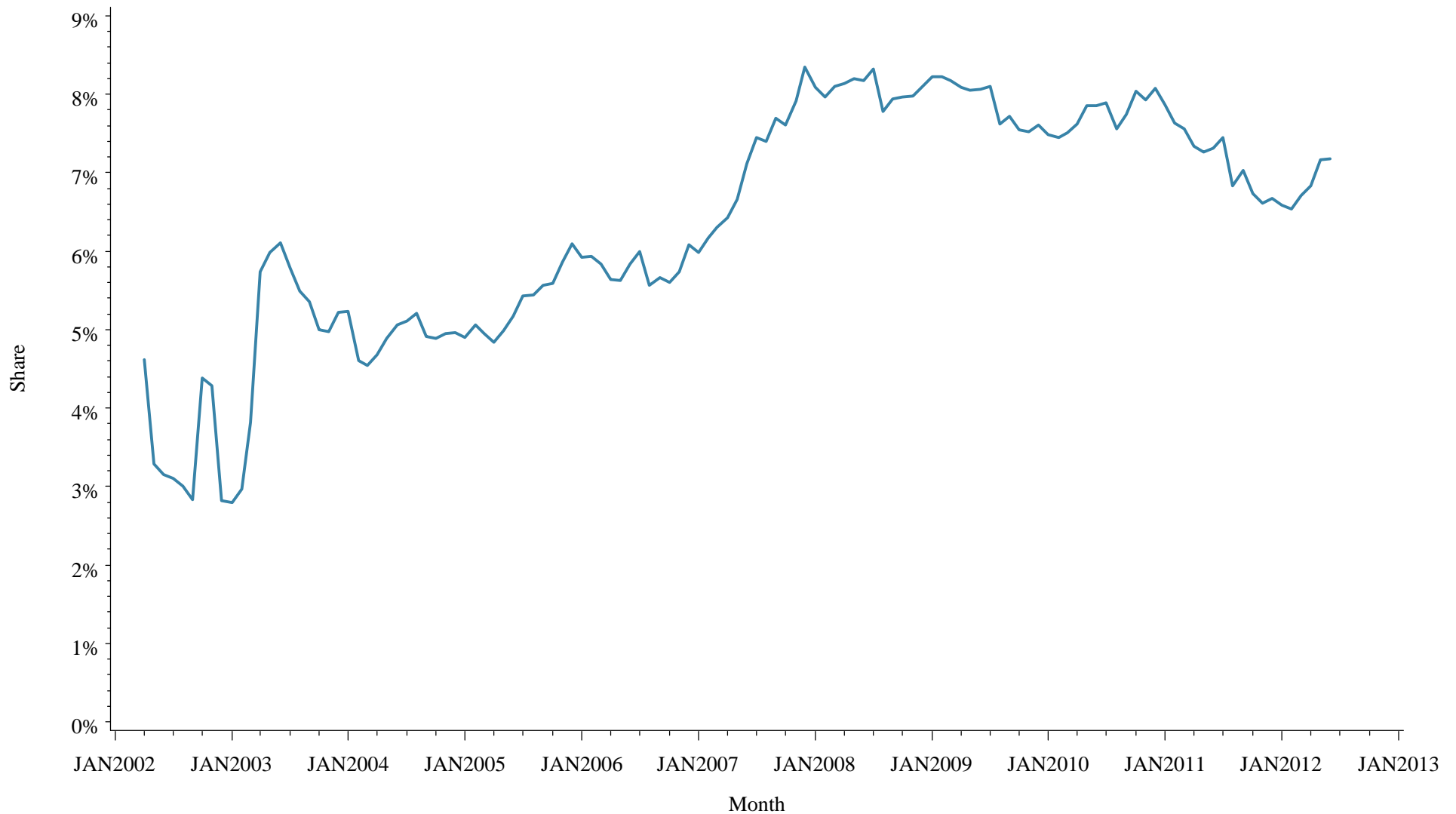


Notes: Contains domestic and international market data reported by U.S. air carriers. American airlines includes American and TWA. Delta includes Delta and Northwest. United includes United and Continental. US Airways includes US Airways and America West. Source: T-100 Market Data, RITA.

Exhibit 12

Share of Inactive Pilots as Share of All Pilots

American Airlines



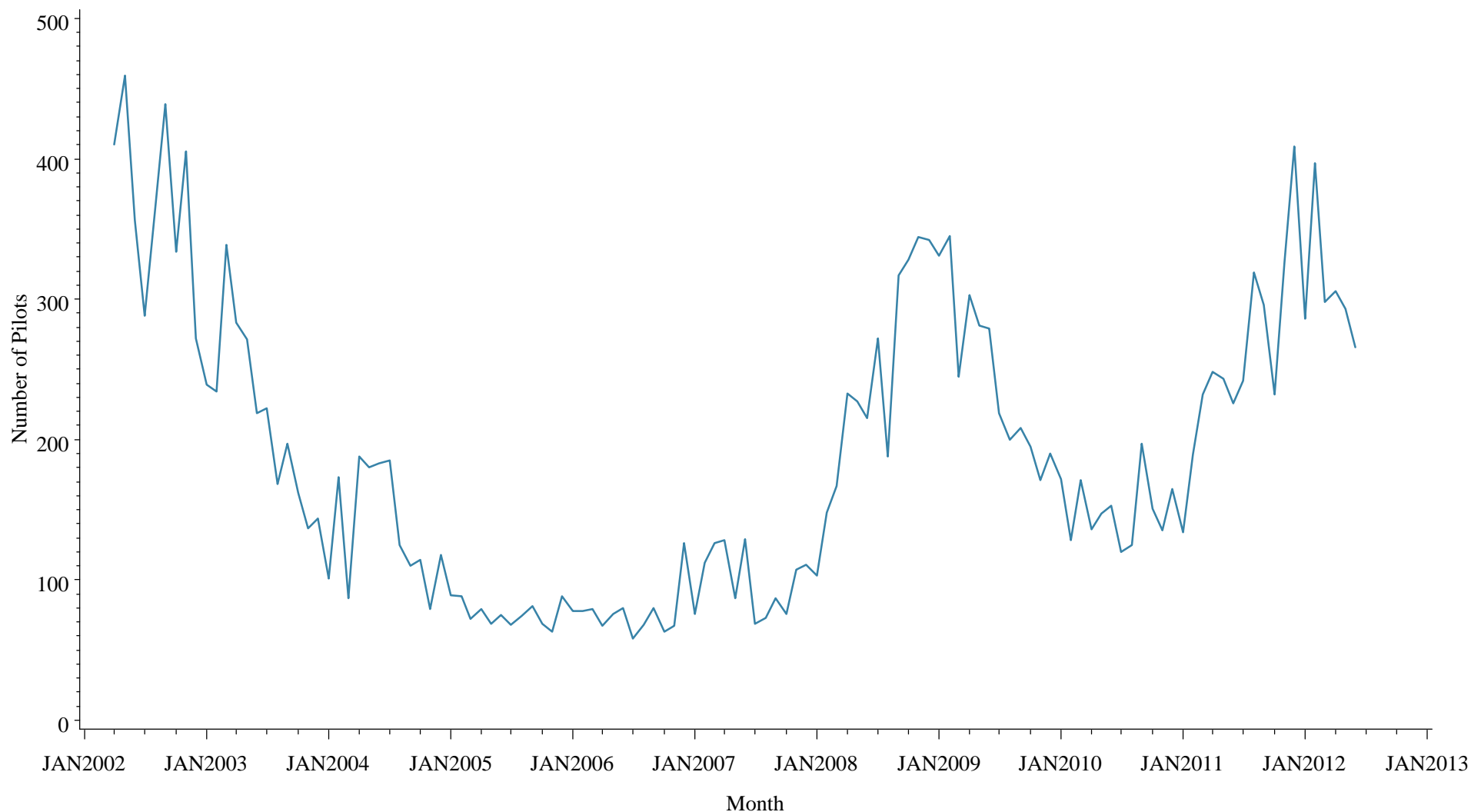
Note: Pilots where permstat = 'Furlough', 'Deceased' or 'Retired' omitted. Share is number of all pilots with status='NACT' divided by the number of pilots with permstat not equal to 'Furlough', 'Deceased' or 'Retired'.

Sources: Salamat EMPHIST and PILOTDB databases.

Exhibit 13

Number of American FOs With Sufficient Seniority to be Captains

Regular Line Pilots Included



Notes: Only pilots with status = 'REG' included. Pilots with missing equipment type or position info, ssen=0, and no pcredit or credit omitted. FOs ranked above the lowest ranking [or highest ranking in number] captain, by month, company, and exact equipment type, are considered as choosing to remain FOs. EIDs 00680734 and 00645064 from pilotdb were considered to be TWA.

Sources: Salamat EMPHIST and PILOTDB databases.

EXHIBIT 14

Distribution of Average Annualized Mitigation Received by Pilots Who Had Furlough Damages under Salamat's Damage Model

Average Annualized Mitigation [\$]	Number of Pilots
0	7
> 0 to 1,000	8
>1,000 to 10,000	36
>10,000 to 25,000	49
>25,000 to 50,000	167
>50,000 to 75,000	236
>75,000 to 100,000	155
> 100,0000	117
Total Number of Pilots:	775

Sources: INCOMEDIFF, PILOTDB, and EMPHIST databases from backup to October 12, 2012 Salamat Report.

PQ_DATACHECK, PQ_MITIGATION, and AMRW2DATA databases from backup to April 30, 2013 Salamat Report.

Exhibit 15

**Distribution of Damages Calculated by Mr. Salamat under his DMODEL
after Mitigation**

Damages Grouping [\$]	Salamat Damage Model
> 0 *	13
0	468
< 0 to < -100	5
-100 to < -1,000	36
-1,000 to < -10,000	99
-10,000 to < -50,000	125
-50,000 to < -100,000	80
-100,000 to < -400,000	650
-400,000 to < -700,000	538
-700,000 to < -1,000,000	132
-1,000,000 to < -1,300,000	20
Total Number of Pilots:	2,166

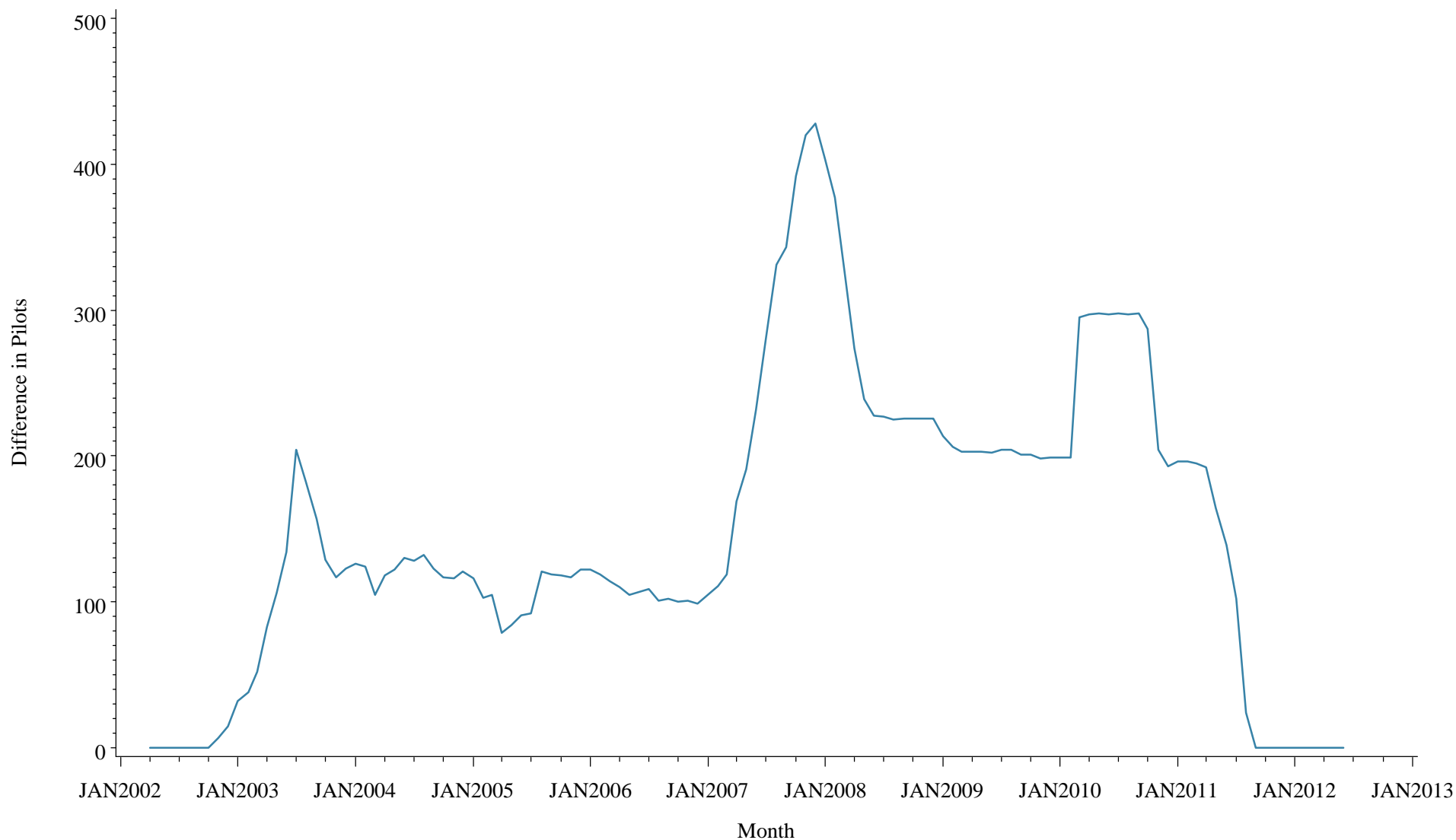
Notes: Includes only TWA pilots in the employee history database as of April, 2002. EID=00680734 omitted as incorrect AMR ID for Osterlund.

*The small number of pilots with positive damages reflects the non-monotonic rolling average that Salamat employed and acknowledges.

Sources: INCOMEDIFF, PILOTDB, and EMPHIST databases from backup to October 12, 2012 Salamat Report. PENSION and PQ_MITIGATION databases from backup to April 30, 2013 Salamat Report.

Exhibit 16

Difference in the Number of Pilots Assigned Income Under Mr. Salamat's DMODEL and the Number of Pilots Assigned Income Under SUPCC



Notes: SUPCC jobs are measured as unique EIDs with positive blincome. DMODEL jobs are measured as unique EIDs with positive modincome.
Source: Salamat INCOMEDIFF database.

**Exhibit 17 - Comparison of Plaintiffs' Experts' Preferred Hypothetical
Seniority Integrations with Supplement CC**

	Supplement CC	Farber	Salamat DMODEL
Top Staple of American Pilots Only	2,596	0	2,494
Merge	1,095 TWA pilots at 8.1763:1 ratio	1,887 TWA pilots at 5.81:1 ratio	1,873 TWA pilots at 4.74:1 ratio
Bottom Staple of TWA Pilots Only	1,242	350	464

Sources: Expert Report of Henry S. Farber, October 12, 2012; Rikk M.T. Salamat, BA, MBA, Damages in Brady et al vs. The Air Line Pilots Association, October 12, 2012; APA's Mergers & Acquisitions Committee, Summary of Supplement CC, December 14, 2001.

Exhibit 18

**Estimated Damages Using Farber's Seniority
List with Salamat's Methodology**

	Farber Approach Using Corrected Comparable Transactions
Damages	
Employment April 2002 - June 2012	(814,278)
Furlough	(1,869,707)
Employment July 2012 - June 2026	(820,216)
Pension Plan A	(394,170)
Pension Plan B	(661,349)
Total Damages	(4,559,720)
Set-Off	
Furlough	1,259,797
Interest	278,177
Pension Plan A	-
Pension Plan B	175,991
Total Set-Off	1,713,965
Total Set-Off Damages	(2,845,755)

Notes:

Damages and set-off are calculated using Salamat's method for calculating damages.

The three comparable transactions are Continental/Frontier, Republic/Midwest, and Republic/Lynx. These comparables result in merging 8 more TWA pilots than under Supplement CC.

Exhibit 19

DMODEL Damages and Mitigation through April 2003

	Original	Through April 2003
Original Damages		
Employment Damages	-109.8	-18.1
Interest	-17.8	-3.5
Furlough Damages	-352.8	-6.0
Interest	-59.7	-1.1
Future - Employment Damages	-148.3	0.0
PV	17.3	0.0
Pension Plan A	-72.8	-1.3
Pension Plan B	-143.4	-3.2
Total Damages	-887.4	-33.1
<i>Damage Probability</i>	<i>53%</i>	<i>-473.0</i>
		<i>-17.7</i>
Set-Off		
Furlough	207.6	2.1
Interest	31.1	0.4
Pension Plan A	0.0	0.0
Pension Plan B	55.6	0.3
Total Set-Off	294.3	2.8
Total Set-Off Damages	-593.1	-30.3
<i>Damage Probability</i>	<i>53%</i>	<i>-316.1</i>
		<i>-16.2</i>

Appendix A

Curriculum Vitae

Kevin M. Murphy

June 2013

Business Address:

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Current Positions

July 2005-Present: George J. Stigler Distinguished Service Professor of Economics,
Department of Economics and Booth School of Business, University of Chicago

Faculty Research Associate, National Bureau of Economic Research

Education

University of California, Los Angeles, A.B., Economics, 1981

University of Chicago, Ph.D., 1986

Thesis Topic: *Specialization and Human Capital*

Previous Research and Academic Positions

2002-2005: George J. Stigler Professor of Economics, Department of Economics and
Booth School of Business, University of Chicago

1993 – 2002: George Pratt Shultz Professor of Business Economics and Industrial
Relations, University of Chicago

1989 – 1993: Professor of Business Economics and Industrial Relations, University of
Chicago

1988 – 1989: Associate Professor of Business Economics and Industrial Relations,
University of Chicago

1986 – 1988: Assistant Professor of Business Economics and Industrial Relations,
University of Chicago

1983 – 1986: Lecturer, Booth School of Business, University of Chicago

1982 – 1983: Teaching Associate, Department of Economics, University of Chicago

1979 – 1981: Research Assistant, Unicon Research Corporation, Santa Monica, California

Honors and Awards

2008: John von Neumann Lecture Award, Rajk College, Corvinus University, Budapest

2007: Kenneth J. Arrow Award (with Robert H. Topel)

October 2005: Garfield Research Prize (with Robert H. Topel)

September 2005: MacArthur Foundation Fellow

1998: Elected to the American Academy of Arts & Sciences

1997: John Bates Clark Medalist

1993: Fellow of The Econometric Society

1989 – 1991: Sloan Foundation Fellowship, University of Chicago

1983 – 1984: Earhart Foundation Fellowship, University of Chicago

1981 – 1983: Fellowship, Friedman Fund, University of Chicago

1980 – 1981: Phi Beta Kappa, University of California, Los Angeles

1980 – 1981: Earhart Foundation Fellowship, University of California, Los Angeles

1979 – 1981: Department Scholar, Department of Economics, University of California,
Los Angeles

Publications

Books

Social Economics: Market Behavior in a Social Environment with Gary S. Becker,
Cambridge, MA: Harvard University Press (2000).

Measuring the Gains from Medical Research: An Economic Approach edited volume
with Robert H. Topel, Chicago: University of Chicago Press (2003).

Articles

“Government Regulation of Cigarette Health Information,” with Benjamin Klein and Lynne Schneider, 24 *Journal of Law and Economics* 575 (1981).

“Estimation and Inference in Two-Step Econometric Models,” with Robert H. Topel, 3 *Journal of Business and Economic Statistics* 370 (1985).

“Unemployment, Risk, and Earnings: Testing for Equalizing Wage Differences in the Labor Market,” with Robert H. Topel, in Unemployment and the Structure of Labor Markets, pp. 103-139, ed. Kevin Lang and Jonathan S. Leonard. London: Basil Blackwell (1987).

“The Evolution of Unemployment in the United States: 1968-1985,” with Robert H. Topel, in NBER Macroeconomics Annual, pp. 11-58, ed. Stanley Fischer. Cambridge, MA: MIT Press (1987).

“Cohort Size and Earnings in the United States,” with Mark Plant and Finis Welch, in Economics of Changing Age Distributions in Developed Countries, pp. 39-58, ed. Ronald D. Lee, W. Brian Arthur, and Gerry Rodgers. Oxford: Clarendon Press, (1988).

“The Family and the State,” with Gary S. Becker, 31 *Journal of Law and Economics* 1 (1988).

“A Theory of Rational Addiction,” with Gary S. Becker, 96 *Journal of Political Economy* 675 (1988).

“Vertical Restraints and Contract Enforcement,” with Benjamin Klein, 31 *Journal of Law and Economics* 265 (1988).

“Income Distribution, Market Size, and Industrialization,” with Andrei Shleifer and Robert W. Vishny, 104 *Quarterly Journal of Economics* 537 (1989).

“Wage Premiums for College Graduates: Recent Growth and Possible Explanations,” with Finis Welch, 18 *Educational Researcher* 17 (1989).

“Industrialization and the Big Push,” with Andrei Shleifer and Robert W. Vishny, 97 *Journal of Political Economy* 1003 (1989).

“Building Blocks of Market Clearing Business Cycle Models,” with Andrei Shleifer and Robert W. Vishny, in NBER Macroeconomic Annual, pp. 247-87, ed. Olivier Jean Blanchard and Stanley Fischer. Cambridge, MA: MIT Press (1989).

“Efficiency Wages Reconsidered: Theory and Evidence,” with Robert H. Topel, in Advances in the Theory and Measurement of Unemployment, pp. 204-240. ed. Yoram Weiss and Gideon Fishelson. London: Macmillan, (1990).

“Empirical Age-Earnings Profiles,” with Finis Welch, 8 *Journal of Labor Economics* 202 (1990).

“Human Capital, Fertility, and Economic Growth,” with Gary S. Becker and Robert F. Tamura, 98 *Journal of Political Economy*, S12 (1990).

“Accounting for the Slowdown in Black-White Wage Convergence,” with Chinhui Juhn and Brooks Pierce, in Workers and Their Wages: Changing Patterns in the United States, pp. 107-143, ed. Marvin Kesters. Washington, D.C.: American Enterprise Institute (1991).

“The Role of International Trade in Wage Differentials,” with Finis Welch, in Workers and Their Wages: Changing Patterns in the United States, pp. 39- 69, ed. Marvin Kesters. Washington, D.C.: American Enterprise Institute (1991).

“Why Has the Natural Rate of Unemployment Increased over Time?” with Robert H. Topel and Chinhui Juhn, 2 *Brookings Papers on Economic Activity* 75 (1991).

“The Allocation of Talent: Implications for Growth,” with Andrei Shleifer and Robert W. Vishny, 106 *Quarterly Journal of Economics* 503 (1991).

“Rational Addiction and the Effect of Price on Consumption,” with Gary S. Becker and Michael Grossman, 81 *American Economic Review* 237 (1991).

“Wages of College Graduates,” in The Economics of American Higher Education, pp. 121-40, ed. William E. Becker and Darrell R. Lewis. Boston: Kluwer Academic Publishers (1992).

“Changes in Relative Wages, 1963-1987: Supply and Demand Factors,” with Lawrence F. Katz, 107 *Quarterly Journal of Economics* 35 (1992).

“The Structure of Wages,” with Finis Welch. 107 *Quarterly Journal of Economics* 285 (1992).

“The Transition to a Market Economy: Pitfalls of Partial Planning Reform,” with Andrei Shleifer and Robert W. Vishny, 107 *Quarterly Journal of Economics* 889 (1992).

“The Division of Labor, Coordination Costs, and Knowledge,” with Gary S. Becker, 107 *Quarterly Journal of Economics* 1137 (1992).

“Industrial Change and the Rising Importance of Skill” with Finis Welch, in Uneven Tides: Rising Inequality in America, pp. 101-132, ed. Peter Gottschalk and Sheldon Danziger. New York: Russell Sage Foundation Publications (1993).

“Wage Inequality and the Rise in Returns to Skill,” with Chinhui Juhn and Brooks Pierce, 101 *Journal of Political Economy* 410 (1993).

“Occupational Change and the Demand for Skill, 1940-1990,” with Finis Welch, 83 *American Economic Review* 122 (1993).

“Inequality and Relative Wages,” with Finis Welch, 83 *American Economic Review* 104 (1993).

“Why Is Rent-Seeking So Costly to Growth?” with Andrei Shleifer and Robert W. Vishny, 83 *American Economic Review* 409 (1993).

“A Simple Theory of Advertising as a Good or Bad,” with Gary S. Becker, 108 *Quarterly Journal of Economics* 941 (1993).

“Relative Wages and Skill Demand, 1940-1990,” with Chinhui Juhn, in Labor Markets, Employment Policy, and Job Creation, pp. 343-60, ed. Lewis C. Solmon and Alec R. Levenson. The Milken Institute Series in Economics and Education. Boulder, CO: Westview Press, (1994).

“Cattle Cycles,” with Sherwin Rosen and Jose A. Scheinkman, 102 *Journal of Political Economy* 468 (1994).

“An Empirical Analysis of Cigarette Addiction,” with Gary S. Becker and Michael Grossman, 84 *American Economic Review* 396 (1994).

“Inequality in Labor Market Outcomes: Contrasting the 1980s and Earlier Decades,” with Chinhui Juhn, 1 *Economic Policy Review* 26 (1995).

“Employment and the 1990-91 Minimum Wage Hike,” with Donald R. Deere and Finis Welch, 85 *American Economic Review* 232 (1995).

“Examining the Evidence on Minimum Wages and Employment,” with Donald R. Deere and Finis Welch, in The Effects of the Minimum Wage on Employment, pp. 26-54, ed. Marvin H. Koster. Washington, D.C.: The AEI Press, (1996).

“Social Status, Education, and Growth,” with Chaim Fershtman and Yoram Weiss, 104 *Journal of Political Economy* 108 (1996).

“Wage Inequality and Family Labor Supply,” with Chinhui Juhn, 15 *Journal of Labor Economics* 72 (1997).

“Quality and Trade,” with Andrei Shleifer, 53 *Journal of Development Economics* 1 (1997).

“Wage Inequality and Family Labor Supply,” with Chinhui Juhn, 15 *Journal of Labor Economics* 72 (1997).

“Vertical Integration as a Self-Enforcing Contractual Arrangement,” with Benjamin Klein, 87 *American Economic Review* 415 (1997).

“Unemployment and Nonemployment,” with Robert H. Topel, 87 *American Economic Review* 295 (1997).

“Wages, Skills, and Technology in the United States and Canada,” with W. Craig Riddell and Paul M. Romen, in General Purpose Technologies and Economic Growth, pp. 283-309, ed. Elhanan Helpman. Cambridge, MA: M.I.T. Press, (1998).

“Perspectives on the Social Security Crisis and Proposed Solutions,” with Finis Welch, 88 *American Economic Review* 142 (1998).

“Population and Economic Growth,” with Gary S. Becker and Edward Glaeser, 89 *American Economic Review* 145 (1999).

“A Competitive Perspective on Internet Explorer,” with Steven J. Davis, 90 *American Economic Review* 184 (2000).

“Industrial Change and the Demand for Skill” with Finis Welch, in The Causes and Consequences of Increasing Inequality, pp. 263-84, ed. Finis Welch. Volume II in the Bush School Series in the Economics of Public Policy. Chicago: University of Chicago Press, (2001).

“Wage Differentials in the 1990s: Is the Glass Half Full or Half Empty?” with Finis Welch, in The Causes and Consequences of Increasing Inequality, pp. 341-64, ed. Finis Welch. Volume II in the Bush School Series in the Economics of Public Policy. Chicago: University of Chicago Press, (2001).

“Economic Perspectives on Software Design: PC Operating Systems and Platforms,” with Steven J. Davis and Jack MacCriskin, in Microsoft, Antitrust, and the New Economy: Selected Essays, pp. 361-420, ed. Davis S. Evans. Boston, MA: Kluwer, (2001).

“Current Unemployment, Historically Contemplated,” with Robert H. Topel and Chinhui Juhn, 1 *Brookings Papers on Economic Activity* 79 (2002).

“The Economics of Copyright ‘Fair Use’ in A Networked World,” with Andres Lerner and Benjamin Klein, 92 *American Economic Review* 205 (2002).

“The Economic Value of Medical Research” with Robert H. Topel, in Measuring the Gains from Medical Research: An Economic Approach, pp. 41-73, ed. Robert H. Topel and Kevin M. Murphy. Chicago: University of Chicago Press, (2003).

“School Performance and the Youth Labor Market,” with Sam Peltzman, 22 *Journal of Labor Economics* 299 (2003).

“Entrepreneurial ability and market selection in an infant industry: evidence from the Japanese cotton spinning industry,” with Atsushi Ohyama and Serguey Braguinsky, 7 *Review of Economic Dynamics* 354 (2004).

“Entry, Pricing, and Product Design in an Initially Monopolized Market,” with Steven J. Davis and Robert H. Topel, 112 *Journal of Political Economy*: S188 (2004).

“Diminishing Returns: The Costs and benefits of Increased Longevity,” with Robert H. Topel, 46 *Perspectives in Biology and Medicine* S108 (2004).

“Persuasion in Politics,” with Andrei Shleifer, 94 *American Economic Review* 435 (May 2004).

“Black-White Differences in the Economic Value of Improving Health,” with Robert H. Topel, 48 *Perspectives in Biology and Medicine* S176 (2005).

“The Equilibrium Distribution of Income and the Market for Status,” with Gary S. Becker and Iván Werning, 113 *Journal of Political Economy* 282 (2005).

“The Market for Illegal Goods: The Case of Drugs,” with Gary S. Becker and Michael Grossman, 114 *Journal of Political Economy* 38 (2006).

“Competition in Two Sided Markets: The Antitrust Economics of Payment Card Interchange Fees,” with Benjamin Klein, Kevin Green, and Lacey Place, 73 *Antitrust Law Journal* 571 (2006).

“The Value of Health and Longevity,” with Robert H. Topel, 114 *Journal of Political Economy* 871 (2006).

“Social Value and the Speed of Innovation,” with Robert H. Topel, 97 *American Economic Review* 433 (2007).

“Education and Consumption: The Effects of Education in the Household Compared to the Marketplace,” with Gary S. Becker, 1 *The Journal of Human Capital* 9 (Winter 2007).

“Why Does Human Capital Need a Journal?” with Isaac Ehrlich, 1 *The Journal of Human Capital* 1 (Winter 2007).

“Critical Loss Analysis in the *Whole Foods* Case” with Robert H. Topel, 3 (2) *GCP Magazine* (March 2008).

“Exclusive Dealing Intensifies Competition for Distribution,” with Benjamin Klein, *Antitrust Law Journal*, Vol. 75 (October 2008).

“Fertility Decline, the Baby Boom and Economic Growth,” with Curtis Simon and Robert Tamura, 2 *The Journal of Human Capital* 3 (Fall 2008).

“The Market for College Graduates and the Worldwide Boom in Higher Education of Women” with Gary S. Becker and William H. J. Hubbard, 100 *American Economic Review: Papers & Proceedings* 229 (May 2010).

"Explaining the Worldwide Boom in Higher Education of Women," with Gary S. Becker & William H. J. Hubbard," *Journal of Human Capital*, University of Chicago Press, vol. 4(3), 203 (2010).

"How Exclusivity is Used to Intensify Competition for Distribution-Reply to Zenger," with Benjamin Klein, 77 *Antitrust Law Journal* No. 2 (2011).

"Achieving Maximum Long-Run Growth," *Federal Reserve Bank of Kansas City Proceedings of the Annual Jackson Hole Conference 2011*.

Selected Working Papers

"Gauging the Economic Impact of September 11th," with Gary S. Becker, Unpublished Working Paper (October 2001).

"War In Iraq Versus Containment: Weighing the Costs," with Steven J. Davis and Robert H. Topel, *NBER Working Paper No. 12092* (March 2006).

"Estimating the Effect of the Crack Epidemic," with Steve Levitt and Roland Fryer, Unpublished Working Paper (September 2006).

"The Interaction of Growth in Population and Income," with Gary S. Becker, Unpublished Working Paper (2006).

"Persuasion and Indoctrination," with Gary Becker (2007).

"The Value of Life Near Its End and Terminal Care," with Gary S. Becker and Tomas Philipson (2007).

"On the Economics of Climate Policy," with Gary S. Becker and Robert H. Topel, Working Paper No. 234 (January 2010, Revised September 2010).

"The Collective Licensing of Music Performance Rights: Market Power, Competition and Direct Licensing" (March 2013).

"Competitive Discounts and Antitrust Policy," with Edward Snyder and Robert Topel (March 2013).

Selected Comments

Comment on "Causes of Changing Earnings Equality," by Robert Z. Lawrence. Federal Reserve Bank of Kansas City (1998).

"Comment: Asking the Right Questions in the Medicare Reform Debate," Medicare Reform: Issues and Answers, pp. 175-81, ed. Andrew J. Rettenmaier and Thomas R. Saving. Chicago: University of Chicago Press (2000).

Comment on “Social Security and Demographic Uncertainty,” by Henning Bohn in Risk Aspects of Investment-Based Social Security Reform, ed. John Y. Campbell and Martin Feldstein. Chicago: University of Chicago Press (2001.)

Comment on “High Technology Industries and Market Structure,” by Hal R. Varian. Federal Reserve Bank of Kansas City (2001).

Popular Press Articles

“The Education Gap Rap,” *The American Enterprise*, (March-April 1990), pp. 62.

“Rethinking Antitrust,” with Gary S. Becker, *Wall Street Journal*, (February 26, 2001) pp. pA22.

“Prosperity Will Rise Out of the Ashes,” with Gary S. Becker, *Wall Street Journal*, (October 29, 2001) pp. pA22.

“The Economics of NFL Team Ownership” with Robert H. Topel, report prepared at the request of the National Football League Players’ Association. (January 2009).

Articles About Murphy

“Higher Learning Clearly Means Higher Earning,” by Carol Kleiman. *Chicago Tribune*, March 12, 1989, Jobs Section pp. 1. Long article about “The Structure of Wages” with picture of Murphy.

“Why the Middle Class Is Anxious,” by Louis S. Richman. *Fortune*, May 21, 1990, pp. 106. Extensive reference to Murphy's work on returns to education.

“Unequal Pay Widespread in U.S.,” by Louis Uchitelle., *New York Times*, August 14, 1990, Business Day section pp. 1. Long piece on income inequality.

“One Study’s Rags to Riches Is Another’s Rut of Poverty,” by Sylvia Nasar, *New York Times*, June 17, 1992, Business Section pp. 1. Long piece on the income inequality research.

“Nobels Pile Up for Chicago, but Is the Glory Gone?” by Sylvia Nasar, *New York Times* November 4, 1993, Business Section pp. 1. Long piece on Chicago School of economics. Featured a photo of five of the “brightest stars on the economics faculty” (including Murphy) and a paragraph about Murphy’s research.

“This Sin Tax is Win-Win,” by Christopher Farrell. *Business Week*, April 11, 1994, pp. 30. Commentary section refers to Murphy, Becker, and Grossman’s work on rational addiction.

“Growing inequality and the economics of fragmentation,” by David Warsh, *Boston Sunday Globe*, August 21, 1994, pp. A1. Two-page article with picture and biographical details about Murphy and his research; part of a series about “how the new generation replaced the old in economics.”

“A Pay Raise’s Impact,” by Louis Uchitelle. *New York Times*, January 12, 1995, Business Section pp. 1. Article about consequences of proposed increase in the minimum wage. Articles featuring Murphy's comments on the minimum wage appeared in numerous other publications, including the *Chicago Tribune*; in addition, Murphy was interviewed on CNN (January 26, 1995).

“The Undereducated American,” *Wall Street Journal*, August 19, 1996, pp. A12. Changes in the rate of returns to education.

“In Honor of Kevin M. Murphy: Winner of the John Bates Clark Medal,” by Finis Welch, 14 *Journal of Economic Perspectives* 193 (2000).

Testimony, Reports, and Depositions (Last 4 Years)

Final Submission of Kevin M. Murphy, January 16, 2009, in the 2006 MSA Adjustment Proceeding.

Expert Report of Kevin M. Murphy, January 23, 2009, in the Matter of City of New York v. Amerada Hess Corp., et al., The United States District Court for the Southern District of New York. Report submitted on behalf of Citgo Petroleum Corporation.

Declaration of Kevin M. Murphy, January 29, 2009, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Deposition of Kevin M. Murphy, February 10, 2009, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Expert Report of Kevin M. Murphy, February 13, 2009, in the Matter of City of New York v. Amerada Hess Corp., et al., The United States District Court for the Southern District of New York. Report submitted on behalf of Citgo Petroleum Corporation regarding Citgo’s share of total RFG supply at the New York Harbor.

Expert Report of Kevin M. Murphy, March 3, 2009, in the Matter of St. Francis Medical Center, on behalf of itself and all others similarly situated vs. C.R. Bard, Inc., The United States District Court for the Eastern District of Missouri Southeastern Division.

Deposition of Kevin M. Murphy, March 6, 2009, in the Matter of St. Francis Medical Center, on behalf of itself and all others similarly situated vs. C.R. Bard, Inc., The United States District Court for the Eastern District of Missouri Southeastern Division.

Expert Report of Kevin M. Murphy, March 17, 2009, in the Matter of ZF Meritor LLC and Meritor Transmission Corporation v. Eaton Corporation., The United States District Court of Delaware. Case No. 06-CV-623.

Deposition of Kevin M. Murphy, April 6, 2009, in the Matter of ZF Meritor LLC and Meritor Transmission Corporation v. Eaton Corporation., The United States District Court of Delaware. Case No. 06-CV-623.

Declaration of Kevin M. Murphy, April 16, 2009, in the Matter of Sun Microsystems, Inc., a California corporation v. Hynix Semiconductor Inc., et al., The United States District Court Northern District of California San Francisco Division.

Declaration of Kevin M. Murphy, April 23, 2009, in the Matter of Sun Microsystems, Inc., a California corporation v. Hynix Semiconductor Inc., a Korean corporation, Hynix Semiconductor America Inc., a California corporation, et al., The United States District Court Northern District of California San Francisco Division.

Expert Report of Kevin M. Murphy, May 11, 2009, in the Matter of Jim Hood, Attorney General ex rel State of Mississippi v. Microsoft Corporation., The Chancery Court of Hinds County First Judicial District.

Expert Report of Professor Kevin M. Murphy, June 12, 2009, in the Matter of CITGO Petroleum Corporation v. Ranger Enterprises, Inc., The United States District Court for the Western District of Wisconsin.

Expert Report of Kevin M. Murphy, June 24, 2009, in the Matter of Novell, Incorporated v. Microsoft Corporation., The United States District Court Northern District of Maryland.

Trial Testimony of Kevin M. Murphy, July 16, 2009, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Declaration of Kevin M. Murphy, August 14, 2009, in the Matter of EBay Seller Antitrust Litigation, The United States District Court for the Northern District of California. Declaration submitted in support of defendant Ebay Inc.'s motion for summary judgment.

Expert Report of Kevin M. Murphy, August 21, 2009, in the Matter of Go Computer, Inc., and S. Jerrold Kaplan v. Microsoft Corporation., The Superior Court for the State of California for the City and County of San Francisco.

Deposition of Kevin M. Murphy, September 16, 2009, in the Matter of Novell, Incorporated v. Microsoft Corporation., The United States District Court Northern District of Maryland.

Deposition of Kevin M. Murphy, September 21, 2009, in the Matter of Ebay Seller Antitrust Litigation, The United States District Court for the Northern District of California. Deposition in support of defendant Ebay Inc.'s motion for summary judgment.

Expert Report of Kevin M. Murphy, September 29, 2009, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court of Kansas.

Trial Testimony of Kevin M. Murphy, October 1, 2009, in the Matter of ZF Meritor LLC and Meritor Transmission Corporation v. Eaton Corporation., The United States District Court of Delaware. Case No. 06-CV-623.

Declaration of Kevin M. Murphy, October 16, 2009, in the Matter of Ebay Seller Antitrust Litigation, The United States District Court for the Northern District of California. Declaration in further support of defendant Ebay Inc.'s motion for summary judgment.

Expert Report of Kevin M. Murphy, October 20, 2009, in the Matter of Advanced Micro Devices, Inc., and AMD International Sales & Service, LTD v. Intel Corporation and Intel Kabushiki Kaisha., The United States District Court for the District of Delaware.

Deposition of Kevin M. Murphy, October 24, 2009, in the Matter of Go Computer, Inc., and S. Jerrold Kaplan v. Microsoft Corporation., The Superior Court for the State of California for the City and County of San Francisco.

Deposition of Kevin M. Murphy, October 26, 2009, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court of Kansas.

Expert Report of Kevin M. Murphy, December 14, 2009, in the Matter of Payment Card Interchange Fee and Merchant Discount Antitrust Litigation, The United States District Court for the Eastern District of New York.

Supplemental Expert Report of Kevin M. Murphy, December 21, 2009, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Trial Testimony of Kevin M. Murphy, January 11, 2010, in the Matter of Go Computer, Inc., and S. Jerrold Kaplan v. Microsoft Corporation., The Superior Court for the State of California for the City and County of San Francisco.

Supplemental Rebuttal Expert Report of Kevin M. Murphy, January 14, 2010, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Deposition of Kevin M. Murphy, January 26, 2010, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Declaration of Kevin M. Murphy, January 28, 2010, in the Matter of Automobile Antitrust Cases I and II., The United States Superior Court of the State of California for the County of San Francisco.

Declaration of Kevin M. Murphy, April 2, 2010, in the Matter of the Application for the Determination of Interim License Fees for The Cromwell Group, Inc. and Affiliates, et al., The United States District Court Southern District of New York.

Deposition of Kevin M. Murphy, April 13-14, 2010, in the Matter of Payment Card Interchange Fee and Merchant Discount Antitrust Litigation., The United States District Court for the Eastern District of New York.

Supplemental Expert Report of Kevin M. Murphy, June 1, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc. (corrected June 8, 2010)., The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, June 21, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees., Federal Communications Commission.

Supplement to Expert Report of Kevin M. Murphy, June 24, 2010, in the Matter of Payment Card Interchange Fee and Merchant Discount Antitrust Litigation., The United States District Court for the Eastern District of New York.

Second Supplemental Expert Report of Kevin M. Murphy, July 6, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Deposition of Kevin M. Murphy, July 8, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, July 28, 2010, in the Matter of Commonwealth of Pennsylvania by Thomas W. Corbett, Jr., in his capacity as Attorney General of the Commonwealth of Pennsylvania v. TAP Pharmaceutical Products, Inc., et al., in the Commonwealth Court of Pennsylvania, No. 212 MD 2004.

Response of Kevin M. Murphy to Reply Report of Mark Israel and Michael Katz, August 19, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees., Federal Communications Commission.

Expert Report of Kevin M. Murphy, September 14, 2010, in the Matter of City of St. Louis, et al. v. American Tobacco Co., et al., The Circuit Court of the City of St. Louis State of Missouri.

Deposition of Kevin M. Murphy, September 24, 2010, in the Matter of City of St. Louis, et al. v. American Tobacco Co., et al., The Circuit Court of the City of St. Louis State of Missouri.

Supplemental Expert Report of Kevin M. Murphy, September 30, 2010, in the Matter of Commonwealth of Pennsylvania by Thomas W. Corbett, Jr., in his capacity as Attorney General of the Commonwealth of Pennsylvania v. TAP Pharmaceutical Products, Inc., et al., in the Commonwealth Court of Pennsylvania, No. 212 MD 2004.

Expert Report of Kevin M. Murphy, October 1, 2010, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Expert Report of Kevin M. Murphy, October 4, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular., CPR International Institute for Conflict Prevention & Resolution.

Deposition of Kevin M. Murphy, October 7, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular., CPR International Institute for Conflict Prevention & Resolution.

Trial Testimony of Kevin M. Murphy, November 8, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular., CPR International Institute for Conflict Prevention & Resolution.

Declaration of Kevin M. Murphy, November 12, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Expert Report of Kevin M. Murphy, November 15, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Expert Report of Kevin M. Murphy, November 19, 2010, in the Matter of Craft, et al., v. Philip Morris Companies, Inc., a corporation, and Philip Morris Incorporated, a corporation, Missouri Circuit Court, Twenty-Second Judicial District (City of St. Louis), Case No. 002-00406-02.

Economic Analysis of Kevin M. Murphy to Guide Interpretation of Provisions of the Dodd-Frank Act Regarding Regulation of Debit Interchange Fees, November 23, 2010, submission on behalf of Bank of America Corporation.

Comments of Kevin M. Murphy on the November 10, 2010 Report of Drs. Mark Israel and Michael L. Katz, November 24, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees., Federal Communications Commission.

Expert Report of Kevin M. Murphy, November 29, 2010, in the Matter of Reggie White, et al., v. NFL: Lockout Insurance & Lockout Loans., The United States District Court District of Minnesota.

Deposition of Kevin M. Murphy, December 3, 2010, in the Matter of Reggie White, et al., v. NFL: Lockout Insurance & Lockout Loans., The United States District Court District of Minnesota.

Deposition of Kevin M. Murphy, December 13, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Deposition of Kevin M. Murphy, January 17-18, 2011, in the Matter of Craft, et al., v. Philip Morris Companies, Inc., a corporation, and Philip Morris Incorporated, a corporation, Missouri Circuit Court, Twenty-Second Judicial District (City of St. Louis), Case No. 002-00406-02.

Report of Kevin M. Murphy, February 15, 2011, submitted by TCF Financial Corporation on February 16, 2011 to the Subcommittee on Financial Institutions and Consumer Credit of the Committee on Financial Services of the U.S. House of Representatives.

Declaration of Kevin M. Murphy, March 2, 2011, in the Matter of TCF National Bank v. Ben S. Bernanke, Janet L. Yellen, Kevin M. Warsh, Elizabeth A. Duke, Daniel K. Tarullo and Sarah Bloom Raskin, the Board of Governors of the Federal Reserve System, in their official capacities; and John Walsh, Comptroller of the Currency, in his official capacity.

Expert Report of Kevin M. Murphy, April 11, 2011, in the Matter of Datel Holdings, LTD., and Datel Design & Development, Inc., v. Microsoft Corporation., The United States District Court Northern District of California.

Declaration of Kevin M. Murphy, May 26, 2011, filed with the National Labor Relations Board on behalf of the National Basketball Players Association.

Deposition of Kevin M. Murphy, June 14, 2011, in the Matter of Datel Holdings, LTD., and Datel Design & Development, Inc., v. Microsoft Corporation., The United States District Court Northern District of California.

Expert Report of Kevin M. Murphy, July 1, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof., The United States International Trade Commission.

Expert Report of Kevin M. Murphy, August 17, 2011, in the Matter of American Airlines, Inc. v. Sabre Inc., et al., The Judicial District of Tarrant County, Texas 67th Judicial District.

Expert Report of Kevin M. Murphy, August 19, 2011, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Deposition of Kevin M. Murphy, September 6, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof., The United States International Trade Commission.

Expert Report of Kevin M. Murphy, September 9, 2011, in the Matter of State of New York v. Intel Corporation, The United States District Court for the District of Delaware.

Deposition of Kevin M. Murphy, September 14, 2011, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Direct Testimony of Kevin M. Murphy, September 27, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof., The United States International Trade Commission.

Deposition of Kevin M. Murphy, October 8-10, 2011, in the Matter of State of New York v. Intel Corporation, The United States District Court for the District of Delaware.

Report of Kevin M. Murphy, October 10, 2011, in connection with dispute between NRLC and railroad employees, National Mediation Board Case Nos. A-13569; A-13570; A-13572; A-13573; A-13574; A-13575; A-13592, before Emergency Board No. 243.

Hearing Testimony of Kevin M. Murphy, October 13, 2011, in connection with dispute between NRLC and railroad employees, National Mediation Board Case Nos. A-13569; A-13570; A-13572; A-13573; A-13574; A-13575; A-13592, before Emergency Board No. 243.

Expert Report of Kevin M. Murphy, October 17, 2011, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Declaration of Kevin M. Murphy, December 1, 2011, the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Expert Report of Kevin M. Murphy, December 5, 2011, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Trial Testimony of Kevin M. Murphy, December 7-8, 2011, in the Matter of Novell, Incorporated v. Microsoft Corporation., The United States District Court Northern District of Maryland.

Trial Testimony of Kevin M. Murphy, December 29, 2011, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Supplemental Expert Report of Kevin M. Murphy, January 15, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Trial Testimony of Kevin M. Murphy, January 18, 2012, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof., The United States International Trade Commission.

Supplemental Expert Report of Kevin M. Murphy, February 23, 2012, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Affidavit of Kevin M. Murphy, March 12, 2012, in the Matter of Sharon Price and Michael Fruth, Individually and on Behalf of Others Similarly Situated vs. Philip Morris Incorporated, The United States Circuit Court, Third Judicial Court, Madison County, Illinois.

Declaration of Kevin M. Murphy, May 3, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Comments of Kevin M. Murphy of DirecTV, LLC, June 22, 2012, in the Matter of Revision of the Commission's Program Access Rules; News Corporation and the DIRECTV Group, Inc., Transferors, and Liberty Media Corporation, Transferee, for Authority to Transfer Control; Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable, Inc. (Subsidiaries), Assignees, et al., Federal Communications Commission.

Expert Report of Kevin M. Murphy, July 20, 2012, in the Matter of American Airlines v. Sabre, Inc., Sabre Holdings Corp., and Sabre Travel International Ltd., The United States Judicial District Tarrant County, Texas 67th Judicial District.

Declaration of Kevin M. Murphy, July 21, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 23, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 24, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.

Deposition of Kevin M. Murphy, August 22, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.

“Economic Analysis of the Impact on DIRECTV’s Subscribership of Carrying an RSN: Evidence from San Diego,” August 31, 2012, submitted in the Matter of Revision of the Commission’s Program Access Rules; News Corporation and the DIRECTV Group, Inc., Transferors, and Liberty Media Corporation, Transferee, for Authority to Transfer Control; Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable, Inc. (Subsidiaries), Assignees, et al., Federal Communications Commission.)

Expert Report of Kevin M. Murphy, September 7, 2102, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Deposition of Kevin M. Murphy, September 14, 2012, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Deposition of Kevin M. Murphy, September 24, 2012, in the Matter of American Airlines Inc. v Sabre, Inc., Sabre Holdings Corp., and Sabre Travel International Ltd. for the State of Texas for the Judicial District of Tarrant County.

Expert Report of Kevin M. Murphy, October 10, 2012, in the Matter of Avery Dennison Corporation v. 3M Innovative Properties and 3M Company, The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, November 12, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.

Trial Testimony of Kevin M. Murphy, November 13, 2012, in the Matter of Microsoft Corporation v. Motorola INC, The United States District Court Western District of Washington at Seattle.

Expert Report of Kevin M. Murphy, November 15, 2012, in the Matter of New Jersey Dep't of Env'tl. Prot., et al. v. Atlantic Richfield Co., et al., The United States District Court Southern District of New York.

Deposition of Kevin M. Murphy, December 3, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division

Expert Report of Kevin M. Murphy, December 21, 2012, in re: Titanium Dioxide Antitrust Litigation, The United States District Court for the District of Maryland.

Deposition of Kevin Murphy, January 16, 2013, in the Matter of Avery Dennison Corporation v. 3M Innovative Properties and 3M Company, The United States District Court for the District of Minnesota.

Amended Expert Report of Kevin M. Murphy, February 8, 2013, in the Matter of New Jersey Dep't of Env'tl. Prot., et al. v. Atlantic Richfield Co., et al, The United States District Court Southern District of New York.

Expert Report of Professor Kevin M. Murphy, February 8, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Declaration of Kevin M. Murphy, February 22, 2013, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Rebuttal Expert Report of Kevin M. Murphy, March 1, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Second Supplemental Expert Report of Kevin M. Murphy, March 8, 2013, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Direct Testimony of Kevin M. Murphy, April 26, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York (revised and resubmitted on May 29, 2013).

Declaration of Kevin M. Murphy, May 13, 2013, in the Matter of Brenda Blakeman v National Milk Producers Federation, et al., The United States District Court for the Southern District of Illinois.

Expert Report of Kevin M. Murphy, May 29, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Declaration of Kevin Murphy, June 6, 2013, in the Matter of WNET, Thirteen, Fox Television Stations, Inc.; Twentieth Century Fox Film Corporation, WPIX, Inc., Univision Television Group, Inc.; The Univision Network Limited Partnership, and Public Broadcasting Service v. Aereo, Inc. f/k/a Bamboom Labs, Inc., The United States Court for the Southern District of New York.

Appendix B

Documents Considered

Court Documents
Bankruptcy Order from the Honorable Peter Walsh, April 2, 2001
Jury Verdict in Patrick Brady, et al., Plaintiffs v. Air Line Pilots Association, et al., Defendants, July 13, 2011
Position Statement of Allied Pilots Association In the Matter of Application of Allied Pilots Association, alleging representation dispute pursuant to Section 2, Ninth of the Railway Labor Act, involving employees of TWA Airlines, LLC and American Airlines, Inc.
Second Amended Restated Complaint in LEROY "BUD" BENSEL, JAMES ARTHUR, PATRICK BRADY, THEODORE A. CASE, MATTHEW J. COMLISH, DARSHANPRTT S. DHILLON, LEMUEL A. DOUGHERTY, .MICHAEL V. FINUCAN, JOHN S. HEFLEY, HOWARD B. HOLLANDER, ROBERT A. PASTORE AND SALLY YOUNG Plaintiffs, v. ALLIED PILOTS ASSOCIATION, AIR LINE PILOTS ASSOCIATION, AMERICAN AIRLINES, INC., and TWA AIRLINES, LLC Defendants, January 27, 2003
D-119
D-137
D-139
D-141
D-142
D-143
D-182
D-183
D-184
D-211
D-307
D-309
D-312
D-313
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P-351
Deposition Transcripts
Deposition of William Compton, January 18, 2013
Deposition of David Resnick, January 16, 2013
Deposition of Donald Carty, October 15, 2012
Deposition of Henry Farber, January 22, 2013
Deposition of Henry Farber, January 23, 2013
Deposition of Jeffrey Brundage, October 23, 2012
Deposition of John Darrah, November 29, 2012
Deposition of Michael Day, May 2, 2013
Deposition of Michael Palumbo, January 21, 2013
Deposition of Rikk Salamat, January 29, 2013
Deposition of Rikk Salamat, January 30, 2013
Deposition of Rikk Salamat, January 31, 2013
Deposition of Rikk Salamat, May 29, 2013
Deposition of Terry Hayes, January 28, 2013
Expert Reports
Rikk M.T. Salamat, BA, MBA, Damages in Brady et al vs. The Air Line Pilots Association, Report and Backup, October 12, 2012
Furlough Damages in Brady et al vs. The Airline Pilots Association After Application of Set-Off, Report and Backup, April 30, 2013
Damages in Brady et al vs. The Air Line Pilots Association Supplementary Report on Damages Under the Farber Lists, Report and Backup, October 12, 2012
Damages in Brady et al vs. The Air Line Pilots Association Supplementary Report on Damages Under the Tannen List, Report and Backup, October 12, 2012
Expert Report of Henry S. Farber, Report and Backup, October 12, 2012
Expert Report of Richard R. Kasher, Esq., March 15, 2013
Expert Report of James S. Feltman, CPA, March 15, 2013

Expert Report of Michael E. Levine, March 15, 2013
Expert Report of Katia P. Sycara, PhD, March 15, 2013
Bates Stamped Documents
AA 0071
AA 0247
AA 0269
ALPA 001159
ALPA 001159
ALPA 001573
ALPA 004359
ALPA 004745
ALPA 004805
ALPA 004879
ALPA 005326
ALPA 007587
ALPA 007673
ALPA 008746
ALPA 008899
ALPA 008905
ALPA 009490
ALPA 009494
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ALPA 009557
ALPA 009558
ALPA 009574
ALPA 013296
ALPA 015311
ALPA 018771
ALPA 020152
ALPA 021021

ALPA 024943
ALPA 027957
ALPA 028088
ALPA 028154
ALPA 028482
ALPA 029193
ALPA 029494
ALPA 029632
ALPA 029680
ALPA 029940
ALPA 029993
ALPA 030000
ALPA 030054
ALPA 034147
APA 00230
APA 00455
P00300
P01556
P01726
P03234
P03242
P03247
P03249
P03255
P03523
P03580
P06392
P06402
P06456
P06464
P06485
P06503
P06543
P06549
P06569
P06651
P06659
P06668
P06670
P06690
SEC Filings

American Airlines Corporation Annual Report for the Year Ending December 31, 1998
American Airlines Corporation 8-K January 10, 2001
American Airlines Corporation Annual Report for the Year Ending December 31, 2000
American Airlines Corporation Annual Report for the Year Ending December 31, 2001
American Airlines Corporation Form 10-Q For the Quarterly Period Ending March 31, 2003
Academic Sources
Baker, Jonathan B. "Comcast/NBCU: The FCC Provides a Roadmap for Vertical Merger Analysis," 25 Antitrust 36 (2011)
Bazerman, Max H. and Margaret A. Neale, Negotiating Rationally (1992)
Binnmore, Ken et al., "The Nash bargaining solution in economic modeling," RAND Journal of Economics, 17, (1986),
Fisher, Roger and William Ury, Getting to Yes (1981), most recent edition 2011
Franklin M. Fisher and R. Craig Romaine, "Janis Joplin's Yearbook and the Theory of Damages," 5 J. Accounting, Auditing and Finance (Winter/Spring 1990)
Katz et al., "An Economic Analysis of Consumer Harm from the Current Retransmission Consent Regime," November 12, 2009.
Lanzilloti and Esquibel, "Measuring Damages in Commercial Litigation: Present Value of Lost Opportunities," J. Accounting, Auditing & Finance (1990)
Nash, John F. "The bargaining problem." Econometrica, 18, (1950), pp. 155-162.
Tim Koller, Marc Goedhart and David Wessels. Valuation and Managing the Value of Companies, John Wiley & Sons
Yurukoglu, Ali, "Bundling and Vertical Relationships in Multichannel Television," NYU Stern (2008)
Public Sources
http://www.restructuringamr.com/our-people-retirement.asp
http://www.transtats.bts.gov/Fields.asp?Table_ID=310
"Airline Consolidation: Has it Gone Too Far?," Senate Committee on the Judiciary. February 7, 2001
"Effects of the American Airlines/TWA Transaction and Other Airline Industry Consolidation on Competition and the Consumer," Senate Committee on Commerce, Science and Transportation. February 1, 2001
"The Long-Range Economic Assumptions for the 2012 Trustees Report," Office of the Chief Actuary Social Security Administration, April 23, 2012
"American Airlines Unions Vote Today on Concessions," New York Times, April 15, 2003
"Climbing Back to Altitude: A Commerce Magazine Conversation with American Airlines CEO Gerard Arpey," August 2004 (http://www.stlcommercemagazine.com/archives/august2004/altitude.html)
Economic Analysis of the Impact of the Proposed Comcast/NBCU Transaction on the Cost to MCVDs of Obtaining Access to NBCU Programming, Kevin M., Murphy, June 21, 2010
Memorandum Opinion and Order, Applications of Comcast Corporation, General Electric Company, and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees, MB Docket No. 10-56, FCC 11-4 (released Jan. 20, 2011)
Proposed Revisions to Program Access Rules to Better Address the Potential Competitive Harms Created by Cable-Affiliated Programmers, William P. Rogerson, June 22, 2012.

Research and Innovative Technology Administration Bureau of Transportation Statistics: Air Carrier Financial
Response of Professor Kevin M. Murphy to Reply Report of Mark Israel and Michael L. Katz, August 19, 2010
Written Testimony of Captain Edwin C. White, Jr. Before the Committee on Health, Education, Labor and Pensions United States Senate Hearing on the TWA/American Airlines Workforce Integration June 12, 2003
Other Sources
FAPA.aero Pay Rate Data