

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

UNITED AIR LINES, INC.,

Plaintiff,

v.

**AIR LINE PILOTS ASSOCIATION,
INTERNATIONAL, et al.,**

Defendants.

Civil Action No.

EXPERT REPORT OF DANIEL M. KASPER AND DARIN N. LEE

JULY 30, 2008

I. ASSIGNMENT

1. We, Daniel M. Kasper and Darin N. Lee,¹ have been retained by United Air Lines, Inc. (“United” or “the Company”) to provide an independent economic and statistical analysis of sick rates among junior pilots and the level of flight delays and cancellations the Company has experienced that are potentially attributable to actions by United’s pilots. We were also asked to provide background on the industry wide capacity cuts that have been announced in recent months as a result of escalating fuel costs. This expert report contains a statement of our opinions as well as the bases for those opinions, and is supported by the work that we have performed or supervised to date. The opinions set forth in this report are based upon our review and analysis of: (i) relevant documents and data in this matter as provided to us by counsel and the Company; (ii) relevant articles and publicly available information sources; (iii) conversations with Company officials; and (iv) our own knowledge and experience from working with and conducting research on the aviation industry. Our investigation and consideration of the issues in this matter is ongoing. Accordingly, our opinions are subject to revision based on the work we may complete in the future and further documents, data, testimony, and other materials we may review. Mr. Kasper’s professional fees for this matter are \$600 per hour. Dr. Lee’s professional fees for this matter are \$435 per hour. If we were called upon to testify, we would testify competently to the matters set forth below.

¹A summary of our qualifications are contained in Section V. Our *curriculum vitae* are contained in Appendices A and B.

II. SUMMARY OF OPINIONS

2. Based on our review of the relevant issues, data and documents in this matter, we have formed the following opinions:

- Since approximately the beginning of June of this year, there has been a dramatic increase in the number of junior pilots at United on sick leave. This increase is abnormally high relative to historical norms and is also well in excess of what conventional statistical analysis would consider to be a “random” occurrence.
- The increased sick rate among junior pilots at United that began in early June coincides with the Company’s announcement that, in response to sky-rocketing fuel prices, it will retire 100 of its least fuel efficient aircraft, including its entire sub-fleet of ninety-four 737-300/500 aircraft, and furlough a substantial number of pilots beginning in the fourth quarter 2008.
- Moreover, the increase in pilot sick rates follows the election of a new Air Line Pilots Association (“ALPA”) leadership at United that is publicly committed to forcing the Company to open negotiations for a new collective bargaining agreement (“CBA”) well prior to what is required in the existing agreement (which expires in December 2009).² Indeed, the sick rates among junior pilots has surged even higher since July 16th, 2008, which coincides with a letter from the Chairman of ALPA’s United Master Executive Council (“MEC”) to its members telling them “the contract you and I are currently burdened with is no longer acceptable, viable

² See Declaration of Jay Milone.

or sustainable” and that “You will see renewed and focused efforts on the part of your union that will highlight the importance of United pilots’ contributions to this airline.”³

- Likewise, the number of pilots accepting overtime flying assignments (know as “junior/senior manning”) has declined sharply. On days with high pilot sick rates, a widespread refusal by pilots to accept junior/senior manning assignments typically forces the Company to cancel substantial numbers of flights because of crew unavailability. This, in turn, results in substantial inconvenience for thousands of United’s passengers and is extremely costly to the Company both in terms of added costs and lost revenue. ALPA’s leaders are well aware of these effects and have specifically identified junior/senior manning as a source of leverage against the Company.
- The frequency of other pilot related cancellations and delays at United has also increased sharply over the past year. Moreover, United has experienced a dramatic increase in the proportion of its flights that have been either delayed or cancelled due to pilot actions this summer, following the July 15 Wallach Letter. During the twelve days immediately following the letter, for example, the proportion of United’s flights that were cancelled because of pilot actions reached 2.5%, far exceeding the levels of pilot related cancellations suffered by United during the summer of 2000, the previous “high water mark” for pilot related cancellations at United.

³ See Letter from Captain Steve Wallach, Chairman, United MEC, July 15, 2008, hereafter “Wallach July 15 Letter.”

- The increased use of sick leave coupled with increases in cancellations and delays due to rejection of items arguably within the captain’s discretion and an apparently concerted refusal to accept “junior/senior manning” flying are consistent with tactics previously used by ALPA at United and by other airline labor groups in their efforts to force management concessions by imposing costly disruptions to flight operations.
- In light of all the circumstances—including the use of sick-outs and other tactics similar to those used by ALPA’s previous efforts to obtain concessions, the new union leadership’s oft-expressed hostility to the existing CBA, and the MEC’s avowed goal of forcing the Company to open negotiations for a new agreement well in advance of contractual requirements—it is our opinion that the substantial (and statistically abnormal) increase in sick leaves and other pilot actions that has occurred in recent weeks is almost certainly the result of a concerted ALPA campaign to force concessions from the Company.

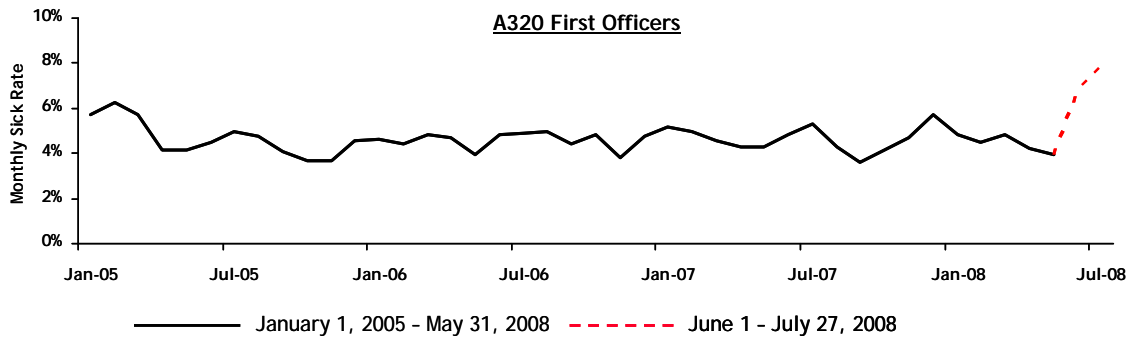
III. ANALYSIS OF UNITED PILOT ACTIONS

Sick Rates Among United's Most Junior Pilots Increased Sharply Following The Company's Announcement That It Would Retire All Of Its Boeing 737 Aircraft

3. On June 4 of this year, United announced that in response to sky-rocketing jet fuel prices, it would retire 100 aircraft, including its entire sub-fleet of 94 Boeing 737-300/500 aircraft, and furlough employees, including a substantial number of pilots.⁴ Because it is standard industry practice to furlough pilots in reverse seniority order, the pilots most likely to be affected by these aircraft retirements are the first officers currently assigned to the Company's Boeing 737 and Airbus 320 aircraft. As illustrated by Exhibit 1, monthly sick rates among these pilots increased sharply in June (i.e., coinciding with the Company's announcement to retire its 737s) and these abnormally high sick rates have continued to the present day.

⁴ See "United Streamlines Operations to Compete in Unprecedented Fuel Environment", UAL Press release, June 4, 2008.

EXHIBIT 1: SICK RATES FOR UNITED’S JUNIOR FIRST OFFICERS INCREASED SHARPLY BEGINNING IN JUNE 2008

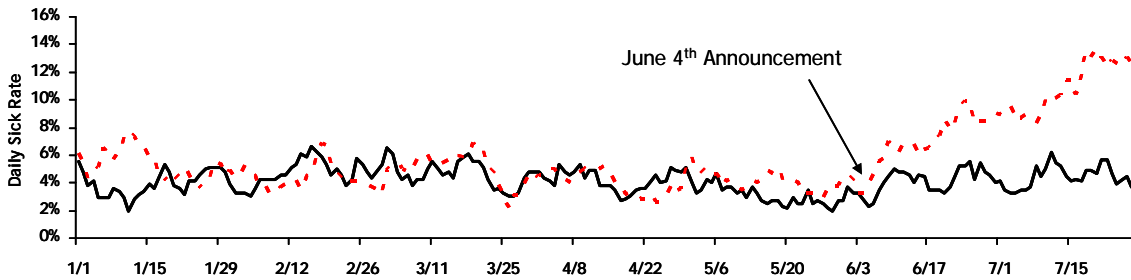


Sources: United Airlines.

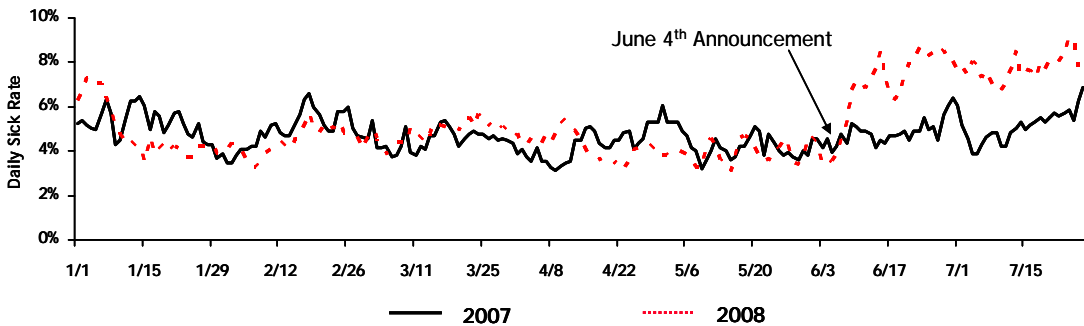
Notes: Percentage of active pilots on sick list each month. Dashed line reflects June and July 2008. July 2008 is through July 27, 2008.

- Exhibit 2 compares daily sick rates for United’s Boeing 737 and Airbus A320 first officers in 2008 to the rates in 2007, which clearly demonstrates that while sick rates in 2008 for both groups of pilots tracked 2007 levels until early June, the rates diverged sharply following United’s June 4th announcement that it would retire 100 aircraft.

EXHIBIT 2: DAILY SICK RATES FOR UNITED’S JUNIOR FIRST OFFICERS INCREASED SHARPLY AFTER UNITED’S ANNOUNCEMENT THAT IT WOULD RETIRE 100 AIRCRAFT
737 First Officers



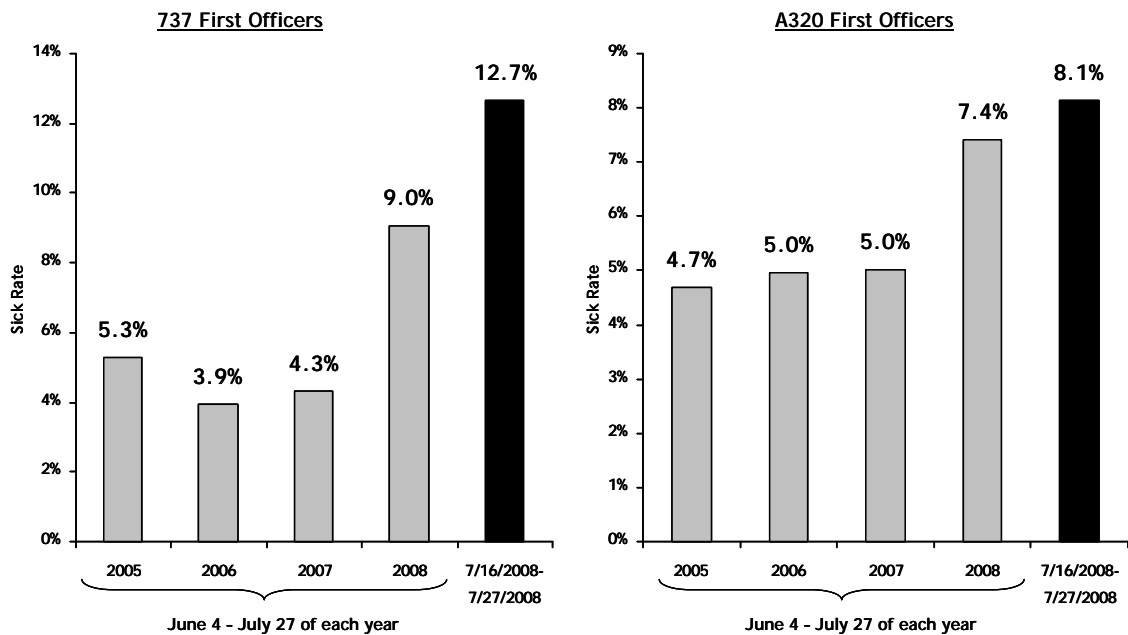
A320 First Officers



Sources: United Airlines.
 Notes: Percentage of active pilots on sick list. Through July 27 of each year.

5. Moreover, as demonstrated in Exhibit 3, while sick rates this summer (i.e., for the period June 4-July 27th) were already substantially higher than in recent summers, sick rates following the Wallach July 15 letter—especially among 737 First Officers—have surged even higher.

EXHIBIT 3: SUMMER SICK RATES FOR UNITED’S JUNIOR FIRST OFFICERS SURGED AFTER JULY 15, 2008

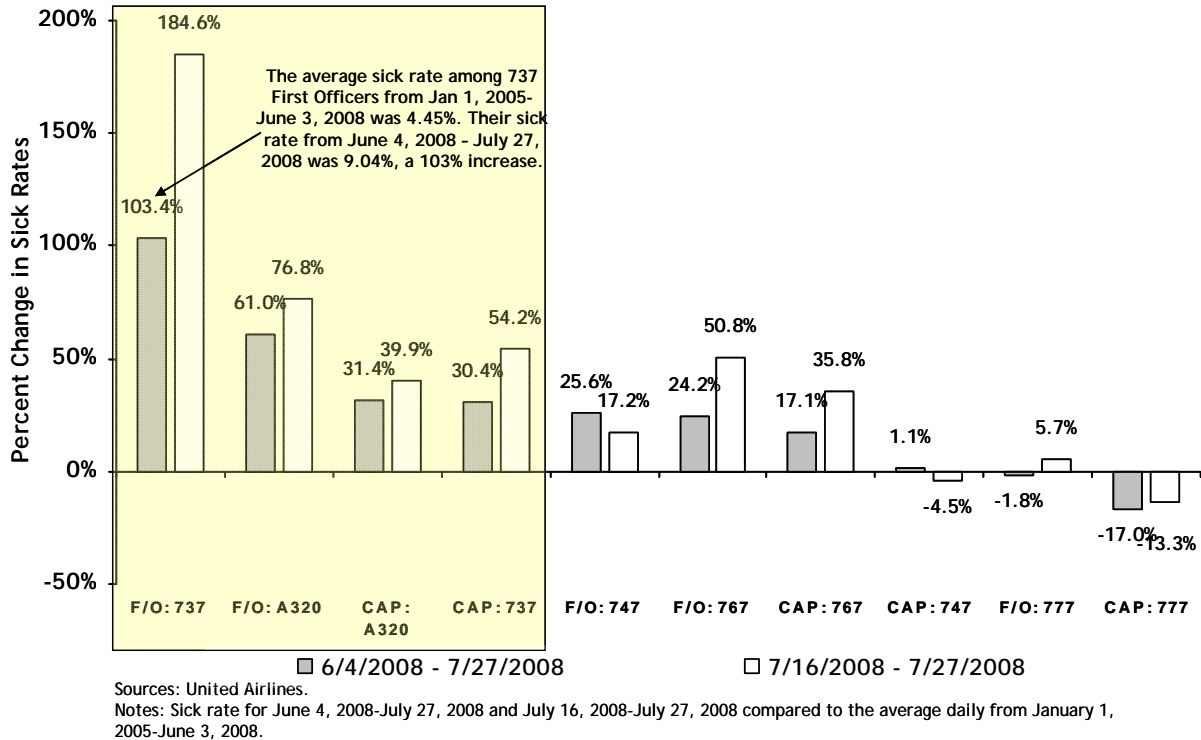


Sources: United Airlines.
Notes: Grey bars represent the average daily percentage of active pilots on sick list for the period June 4 - July 27 of each year.

6. Exhibit 4 compares the average sick rate by seat (i.e., Captain or First Officer) for various United fleet types and it demonstrates that between June 4, 2008 and July 27, 2008, sick rates among 737 First Officers were more than twice the “average” rate from the past three and a half years (January 1, 2005 to June 3, 2008). Moreover, Exhibit 4 also demonstrates that for the period July 16, 2008 to July 27, 2008, sick rates for several pilot groups increased sharply and among 737 First Officers were nearly three times (i.e., 185%) higher than the historical average.⁵

⁵ This surge in summer sick rates among junior pilots is consistent with efforts by certain ALPA members encouraging pilots to exercise leverage during the summer months. See Declarations of Benjamin Vaughn, Jay Milone and Paul Carlson.

EXHIBIT 4: SICK RATES AMONG UNITED’S JUNIOR PILOTS THIS SUMMER ARE SUBSTANTIALLY HIGHER THAN HISTORICAL AVERAGES

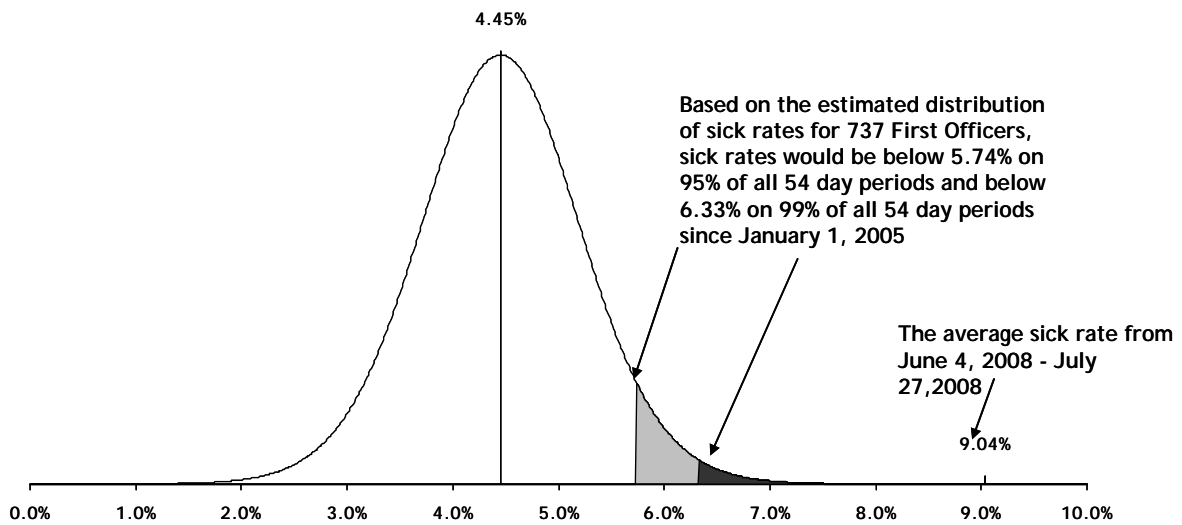


7. One natural question that comes to mind is whether or not the observed increase in pilot sick rates at United could be due to random chance. Our analysis of the data strongly suggests that this is not the case. Economists and statisticians routinely rely upon a variety of hypothesis tests to determine the likelihood that an observed outcome lies within the range of random variation. Based on data since 2005 and assuming that sick rates among pilots follow a “normal”-shaped distribution⁶, one would expect that the *average* sick rate for 737 First Officers over a consecutive 54-day period to be approximately 4.45%, with a standard deviation of approximately 0.75%. This “distribution” is depicted graphically in Exhibit 5,

⁶ Analysis of the non-overlapping 54-day sick rates among 737 First Officers strongly suggests that the data follows a *T*-distribution with 22 degrees of freedom, which is a variant of the Normal distribution.

which also demonstrates that the average sick rate for a randomly selected 54-day period would be below 5.74% ninety-five percent of the time, and below 6.33% ninety-nine percent of time. As shown in Exhibit 5, the observed sick rate for 737 First officers for the period June 4-July 27, 2008 was 9.04%, well above what one would expect to occur even 1% of the time.

EXHIBIT 5: THE SICK RATE FOR 737 FIRST OFFICERS FOR THE 54-DAY PERIOD ENDING JULY 27, 2008 OF 9.04% IS WELL OUTSIDE THE RANGE OF RANDOM VARIATION



Sources: United Airlines.

Notes: Estimated distribution of the average sick rate over a 54 day period for 737 first officers, based on all non-overlapping contiguous 54 day periods from January 1, 2005 - June 3, 2008. Assumes that average sick rates over 54 day periods follow a t-distribution with 22 degrees of freedom.

8. Indeed, as demonstrated by Exhibit 6, the probability that one would observe an average sick rate of at least 9.04% for United’s entire population of 737 First Officers or an average sick rate of 7.41% for United’s entire population of A-320 First Officers during any particular 54 day period is effectively nil.⁷ This strongly suggests that the extraordinarily high sick rates

⁷ For 737 First Officers, the probability of observing an average sick rate for a 54-day period of 9.04% is 0.000184% (roughly one in 500,000). For Airbus 320 First Officers, the probability of observing a sick rate for a 54 day period of 7.41% is 0.000423% (roughly one in 236,000).

among junior First Officers that United has experienced this summer is the result of other, non-random, collaborative behavior.

EXHIBIT 6: THE SICK RATES FOR JUNIOR FIRST OFFICERS FOR THE 54-DAY PERIOD ENDING JULY 27, 2008 ARE WELL OUTSIDE THE RANGE OF RANDOM VARIATION

Pilot	Aircraft	Current # of Pilots	Sick Rate		Percent Difference	Probability That the Observed Difference Since June 4, 2008 is "Random"
			54 day period June 4, 2008 - July 27, 2008	Average: Jan 1, 2005 - June 3, 2008		
F/O	737	482	9.04%	4.45%	103.3%	0.00%
F/O	A320	920	7.41%	4.60%	61.0%	0.00%
CAP	737	471	7.77%	5.96%	30.4%	0.73%
CAP	A320	893	7.34%	5.59%	31.4%	1.29%
F/O	767	946	6.28%	5.06%	24.2%	2.26%
F/O	747	520	7.14%	5.69%	25.6%	4.72%
CAP	767	854	7.34%	6.27%	17.1%	10.04%
CAP	747	220	7.26%	7.18%	1.1%	47.01%
F/O	777	740	5.34%	5.43%	-1.8%	57.62%
CAP	777	399	5.86%	7.05%	-17.0%	86.73%

Sources: Analysis of Pilot Sick List Data From United Airlines.

Notes: Assumes that average sick rates over 54 day periods follow a t-distribution with 22 degrees of freedom.

The Combination of Abnormally High Sick Rates and Refusals To Accept Junior/Senior Manning Have Resulted in Costly Delays For United

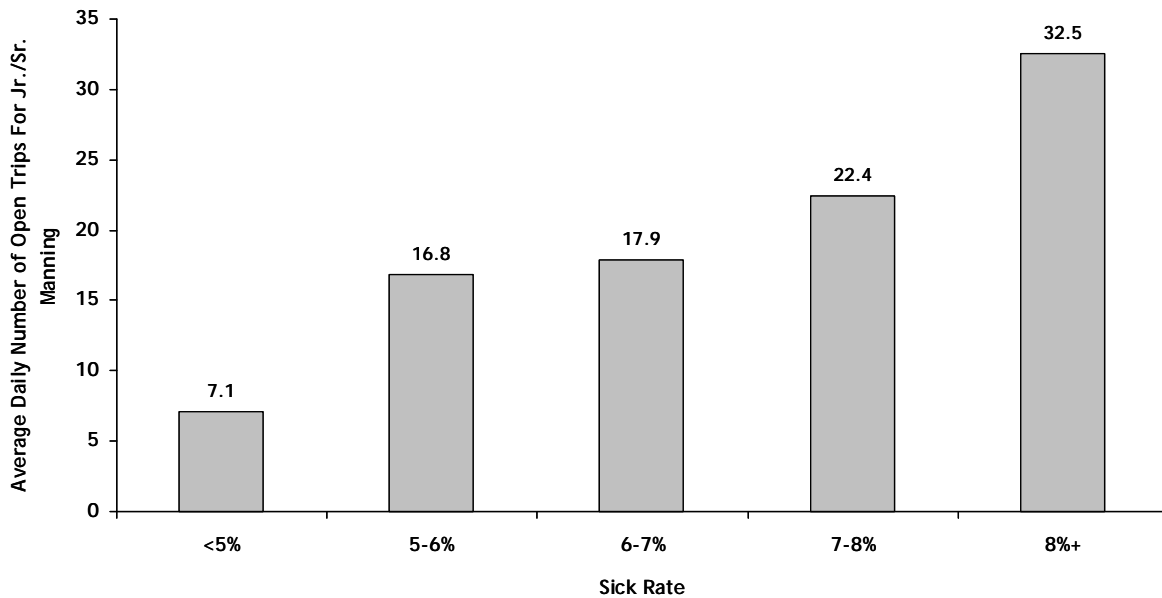
9. Not surprisingly, there is a strong positive relationship between the proportion of pilots on the sick list and the number of open trips on any given day.⁸ When United is unable to cover all open trips with its reserve pilots, the Company has traditionally relied upon a procedure known as “junior/senior manning” whereby the crew scheduling department contacts available pilots in seniority order and requests that he or she cover the flight.⁹ Exhibit 7 demonstrates that on days when the pilot sick rate is less than 5%, there are—on average—only 7.1 open trips for junior/senior manning throughout United’s entire mainline system. As the proportion of pilots reporting sick increases, however, so too does the number of open

⁸ Open trips are flights that have not been assigned to a pilot and are available for pilots (reserves and other unscheduled pilots) on an overtime basis.

⁹ Although pilots are not required to accept junior/senior manning requests, it is our understanding that traditionally the Company has not encountered any significant problems in filling open flights using junior/senior manning. See Declaration of Paul Carlson.

trips for junior/senior manning. For example, when the pilot sick rate is between 6% and 7%, the average number of daily open trips for junior/senior manning increases to 17.9, and on days when the sick rate reaches 8% or higher, the average number of open trips for junior/senior manning is 32.5, more than four times higher than when the sick rate is below 5%.

EXHIBIT 7: THERE IS A STRONG POSITIVE RELATIONSHIP BETWEEN THE PILOT SICK RATE AND THE NUMBER OF OPEN TRIPS FOR JUNIOR/SENIOR MANNING

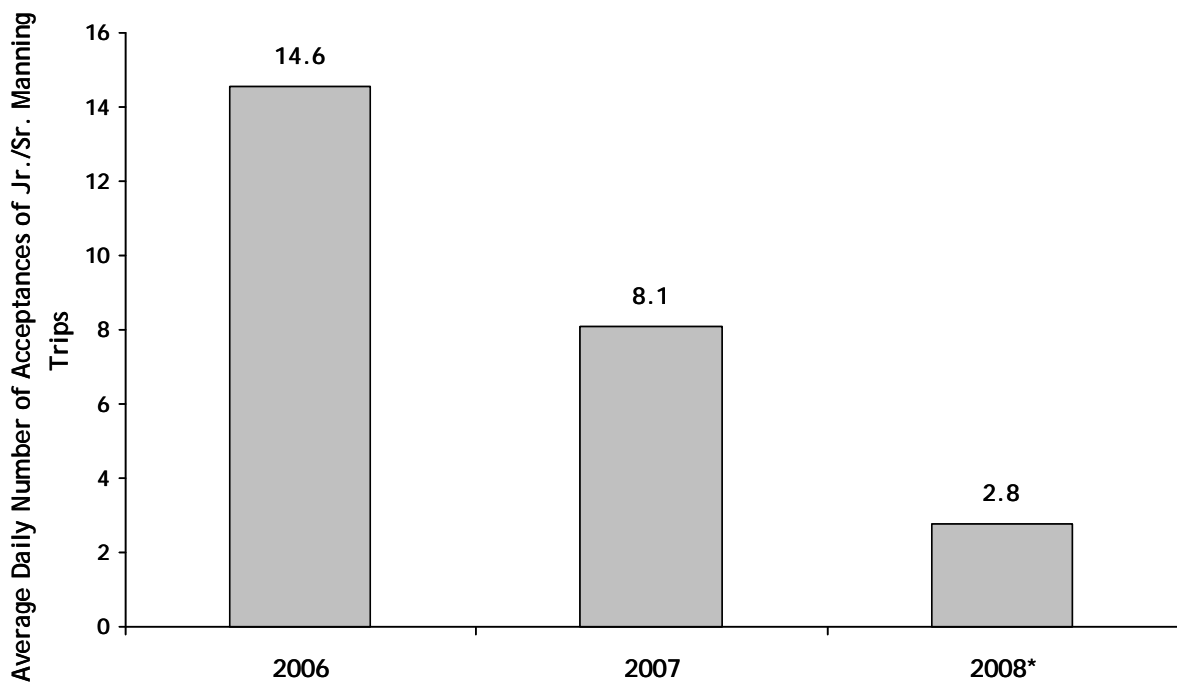


Sources: Analysis of Jr./Sr. Manning and sick call data from United Airlines 1/1/2006-7/27/2008.
 Notes: Percentage of active pilots on sick list. Number of open trips is the sum of KF, KO, and KL cancellations and Jr./Sr. Manning acceptances. All pilots and fleet types.

10. If a significant proportion of pilots reject junior/senior manning requests on a given day, there is a high likelihood that United will be forced to cancel numerous flights. Exhibit 8 below shows the average daily number of *accepted* junior/senior manning trips for the past three years and demonstrates that the Company has found it increasingly difficult to staff open trips using junior/senior manning. Indeed, while United was able to fill an average of

14.6 daily open flights using junior/senior manning in 2006, this average has plummeted to only 2.8 daily flights in 2008. This precipitous decline in the number of pilots willing to accept junior/senior manning assignments is consistent with the broad range of harassment tactics employed by some ALPA members to dissuade other pilots to accept such trips.¹⁰

EXHIBIT 8: THE AVERAGE DAILY NUMBER OF ACCEPTED JUNIOR/SENIOR MANNING TRIPS HAS DECLINED SHARPLY OVER THE PAST THREE YEARS



Sources: United Airlines.
Notes: Average daily Junior/Senior Manning acceptances. Includes all aircraft.
*2008 is through July 27, 2008.

11. When United experiences both a high pilot sick rate (which generate relatively larger numbers of open trips for junior/senior manning) in addition to high junior/senior manning rejection rates (i.e., a high proportion of trips that are refused for junior/senior manning by all qualified pilots) on the same day, the Company will likely be forced to cancel a significant number of flights for crew scheduling reasons. Exhibit 9 demonstrates that when no

¹⁰ See Declaration of Jay Milone.

junior/senior manning requests are rejected, the Company does not experience any crew scheduling cancellations, regardless of the pilot sick rate. Likewise, when less than 25% of junior/senior manning requests are rejected, United is typically forced to cancel only a small number of flights for crew scheduling reasons (between 0.1% and 0.2%). However, Exhibit 9 also demonstrates that when pilot sick rates exceed 5% and over 50% of junior/senior manning requests are rejected, the Company is typically forced to cancel between 1.1% and 1.9% of its flights for crew scheduling reasons.

EXHIBIT 9: THE COMBINATION OF SICK RATES ABOVE 5% AND JUNIOR/SENIOR MANNING REJECTION RATES ABOVE 50% RESULTS IN SUBSTANTIAL NUMBERS OF FLIGHT CANCELLATIONS

		Sick Rate				
		<5%	5-6%	6-7%	7-8%	8%+
Manning Rejection Rate	0%	0.0%	0.0%	0.0%		
	0-15%	0.1%	0.1%	0.1%	0.1%	
	15-25%	0.1%	0.2%	0.2%	0.2%	
	25-50%	0.2%	0.5%	0.5%	0.4%	
	>50%	0.3%	1.3%	1.1%	1.4%	1.9%

Crew Scheduling Cancellation Rates

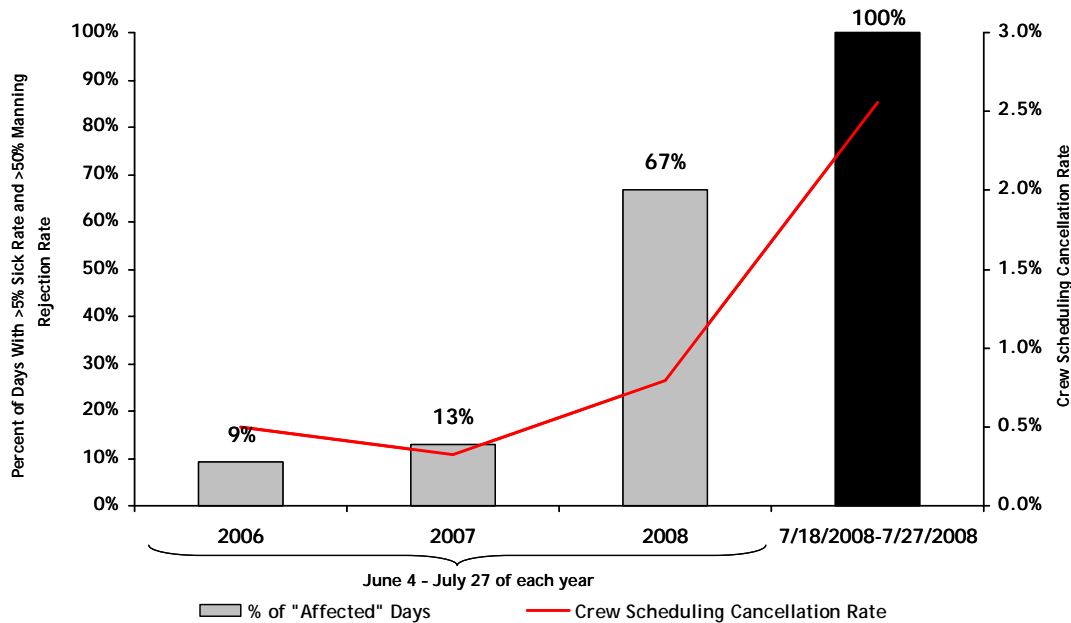
Crew Scheduling Cancellation rates above 1% occur when sick rates exceed 5% and the manning "rejection rate" exceeds 50%

Sources: Analysis of Jr./Sr. Manning, sick call and Delay data from United Airlines 1/1/2006-7/27/2008.
Notes: Percentage of active pilots on sick list. Crew Scheduling Cancellation rate is the percentage of scheduled flights cancelled for KF, KO or KL. The manning rejection rate is the number of KF, KO, or KL cancellations divided by the sum of KF, KO, and KL cancellations and Jr./Sr. Manning acceptances. All pilots and fleet types.

12. As described in the preceding paragraphs, a relatively high pilot sick rate combined with a high junior/senior manning rejection rate on a given day is likely to result in United being forced to cancel a substantial number of its flights for crew scheduling reasons. And ALPA's

leadership clearly views refusal to accept junior/senior manning requests as a source of “leverage” it could use against the Company.¹¹ Exhibit 10 summarizes the proportion of “affected” days over the past three summers (i.e., June 4 to July 27 for each year) where the pilot sick rate exceeded 5% and the junior/senior manning rejection rate exceeded 50%. While the proportion of “affected” days during the summers of 2006 and 2007 were only 9% and 13% respectively, that rate has surged to 67% in 2008. Moreover, Exhibit 10 also demonstrates that *every day* between July 18 and July 27 was affected, resulting in flight cancellation rates due to crew scheduling reasons of more than 2.5%.

EXHIBIT 10: THE PROPORTION OF SUMMER DAYS AFFECTED BY HIGH PILOT SICK RATES AND HIGH JUNIOR/SENIOR MANNING REJECTION RATES HAS RISEN SHARPLY IN 2008



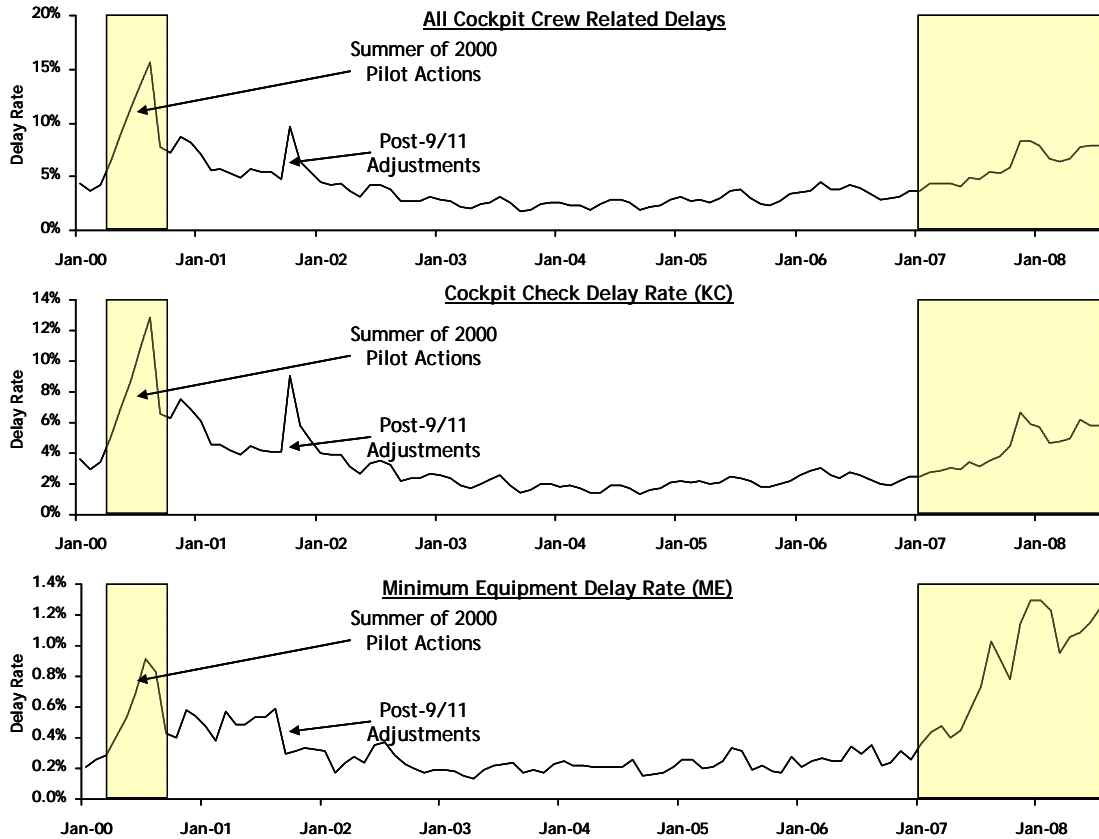
Sources: United Airlines.
 Notes: Percent of “affected” days where the percentage of active pilots on sick list is above 5% and the manning rejection rates is above 50%. The manning rejection rate is the number of KF, KL and KO cancellations divided by the sum of KF, KL and KO cancellations and Jr./Sr. Manning acceptances. Grey bars represent the percent of days for the period June 4 - July 27 of each year. All pilots and aircraft. Crew Scheduling Cancellation rate is the percentage of scheduled flights cancelled for KF, KL or KO.

¹¹ See Transcript of MEC Chairman Mark Bathurst, April 20, 2007. See also MEC Week in Review, January 25, 2008 and May 7, 2008 Council 12 Update.

There Has Been a Steady Increase in the Frequency of Pilot Related Delays and Cancellations Since The Beginning of 2007

13. More generally, United has experienced a steady increase in the frequency of both flight delays and cancellations due to various pilot actions since the beginning of 2007. Such actions include pilots refusing to perform a flight due to minor equipment issues that—in many cases—have no effect on the aircraft’s airworthiness and that would typically be fixed once the aircraft reached a station with a full maintenance operation (i.e., minimum equipment or “ME” delays/cancellations), delays in completing pre-departure cockpit checks (i.e., Cockpit Check or “KC” delays) and delays or cancellations resulting from pilots refusing to waive their contractual rest and duty period requirements even when the Federal Aviation Administration’s rest requirements have been satisfied (i.e., crew legality or “KL” delays/cancellations). Exhibit 11 demonstrates that the overall use of such delay tactics has accelerated sharply over the past year. In the case of ME delays, the current rate has not only sky-rocketed over the past year, but it now exceeds the rate experienced during the summer of 2000, when United was crippled by a highly publicized pilot job action.

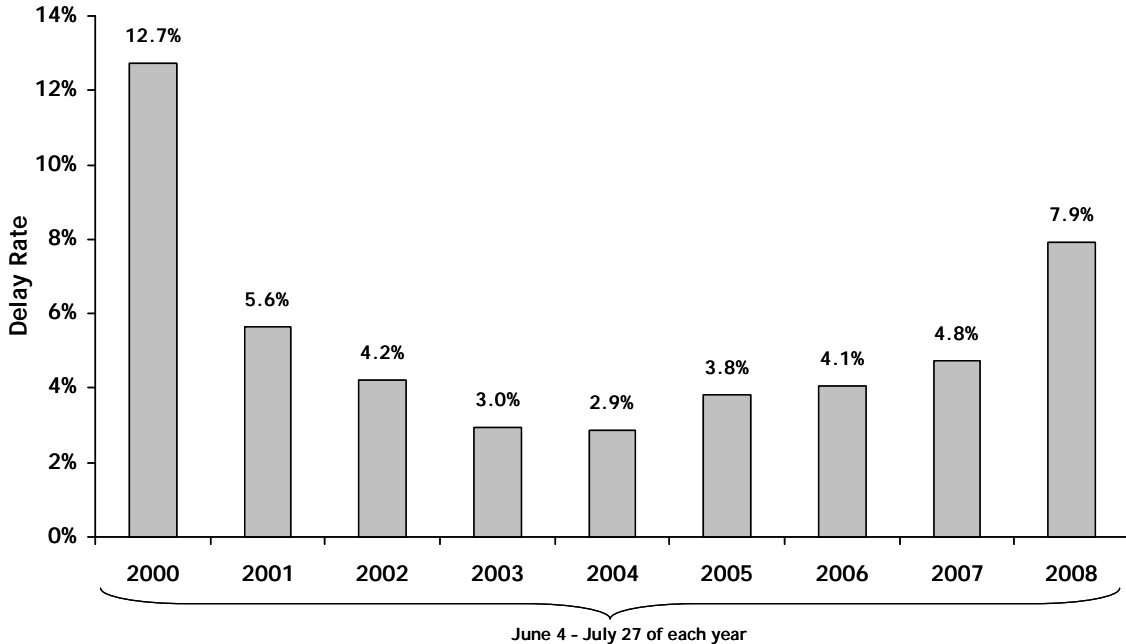
EXHIBIT 11: THE FREQUENCY OF PILOT RELATED DELAYS HAS STEADILY INCREASED SINCE THE BEGINNING OF 2007



Sources: United Airlines.
Notes: Monthly delays for all aircraft. All Cockpit Crew delays include KC/KF/KL/ME. July 2008 is through July 27.

14. Exhibit 12 shows the overall level of pilot related delays for the summer (i.e., June 4-July 27) period of each of the past nine years, and it demonstrates that after bottoming in 2004, pilot related delays have increased steadily each summer and have effectively doubled in 2008 compared to the period between 2002 and 2007.

EXHIBIT 12: THE FREQUENCY OF SUMMER PILOT RELATED DELAYS HAS STEADILY INCREASED SINCE 2007



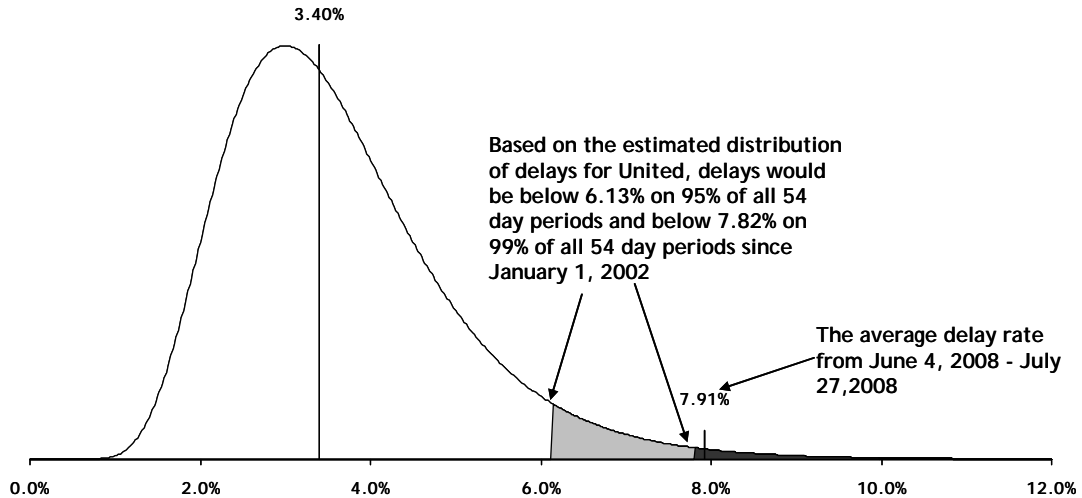
Sources: United Airlines.
 Notes: Percentage of scheduled flights delayed for KC/KF/KL/ME. All aircraft. June 4 - July 27 of each year.

15. Likewise, Exhibit 13 demonstrates that the 7.91% rate of pilot related delays United has experienced since June 4th of this year is well outside the range of random variation. Indeed, based on the average delay rates for all non-overlapping 54-day periods between January 1, 2002 and June 3, 2008, one would expect the average pilot-related delay rate to be below 6.13% ninety-five percent of the time and below 7.82% ninety-nine percent of the time.¹² Put differently, the probability that the observed pilot related delay rate for the period June 4-July 27, 2008 of 7.91 was a “random” occurrence is approximately 0.92%. This strongly

¹² Because the distribution of delay rates are skewed to the right (rather than being symmetrical around the mean as was the case with the sick rates) we have assumed a log-normal rather than normal distribution. This distribution is routinely used by economists and statisticians when the variable of interest is skewed to the right. See, for example, *Statistical Inference*, page 111 by George Casella and Roger Berger, Belmont CA: Wadsworth & Brooks Cole, 1990.

suggests that other, non-random, collaborative behavior is driving the high level of pilot related delays United has experienced this summer.

EXHIBIT 13: THE PILOT INDUCED DELAY RATE FOR THE 54-DAY PERIOD ENDING JULY 27, 2008 OF 7.91% IS WELL OUTSIDE THE RANGE OF RANDOM VARIATION

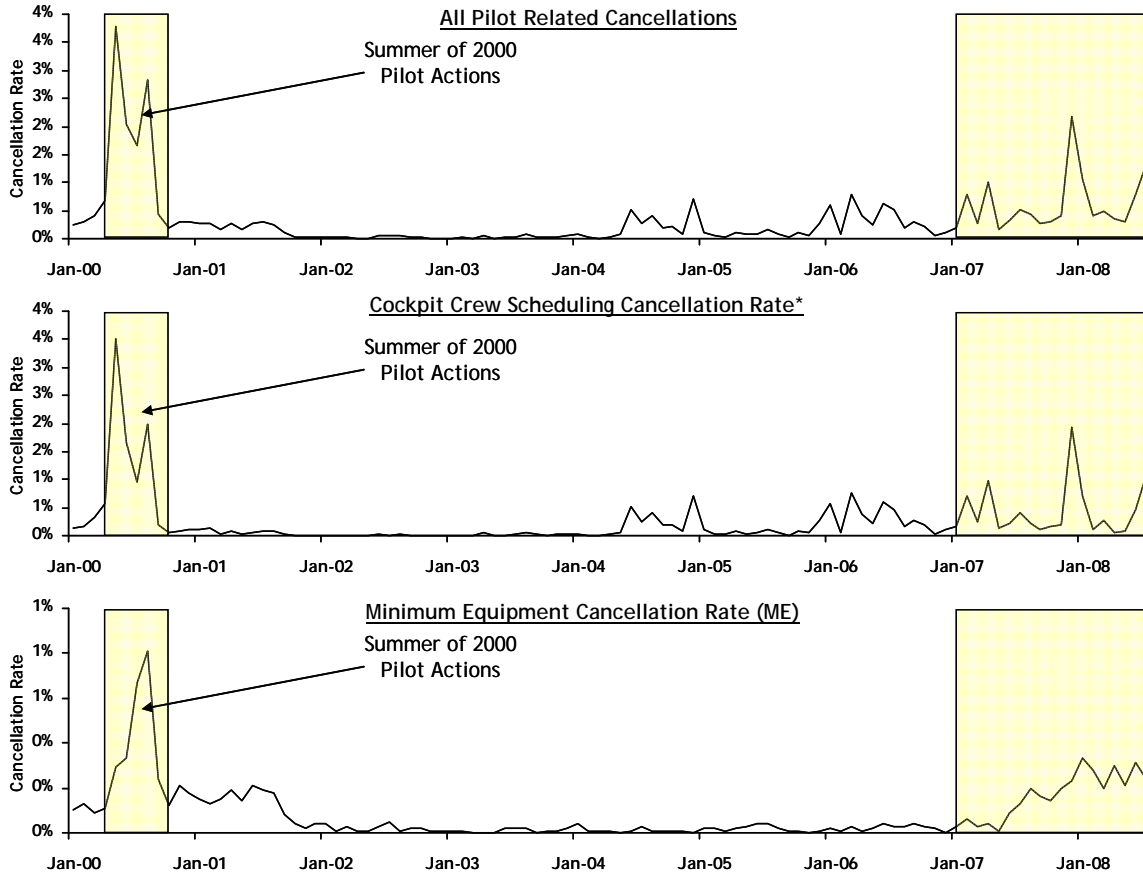


Sources: United Airlines.

Notes: Estimated distribution of the average delay rate for all aircraft over a 54 day period for United based on all non-overlapping contiguous 54 day periods from January 1, 2002 - June 3, 2008. Assumes a log-normal distribution. Percentage of scheduled flights delayed for KF/KC/KL/ME.

16. Likewise, the overall level of pilot related cancellations has also increased steadily since the beginning of 2007, as demonstrated by Exhibit 14.

EXHIBIT 14: THE FREQUENCY OF PILOT-RELATED CANCELLATIONS HAS STEADILY INCREASED SINCE THE BEGINNING OF 2007



Sources: United Airlines.

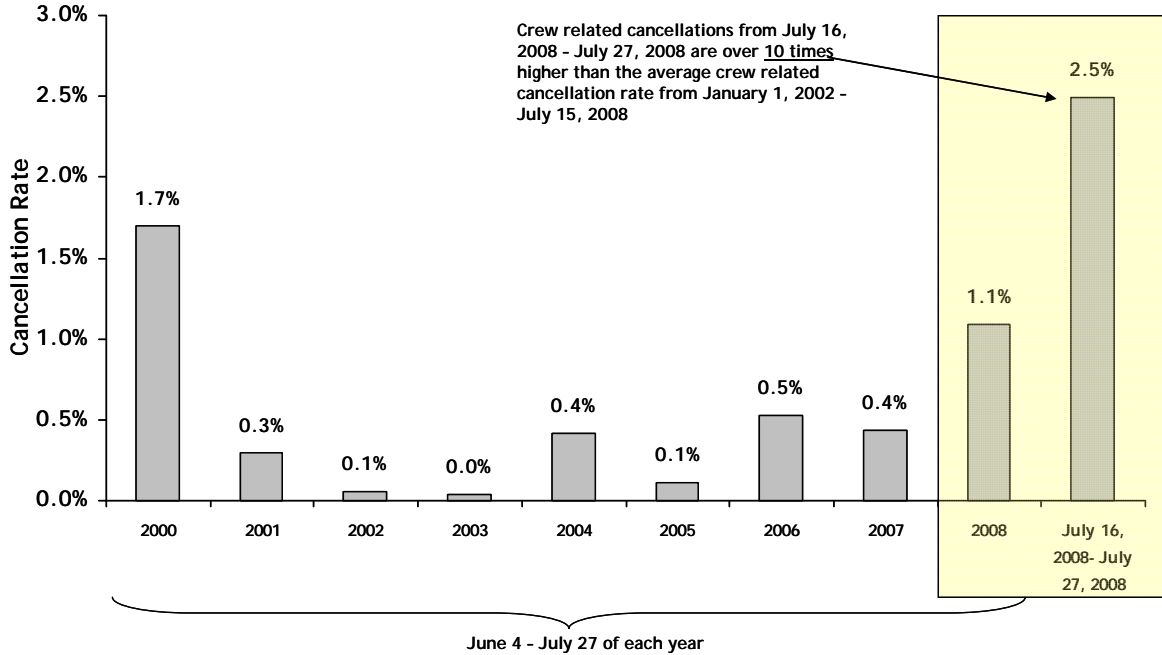
Notes: Monthly cancellations for all aircraft. All Pilot Related cancellations include scheduled flights cancelled for KF/KC/KL/KO/ME. July 2008 is through July 27.

*Cockpit crew scheduling cancellation rates include KO, KO and KL codes.

17. Moreover, as demonstrated in Exhibit 15, the 2.5% rate of pilot related cancellations during the twelve-day period following the July 15th letter from the Chairman of the United’s ALPA MEC was more than ten times higher than the average pilot-related cancellation rate between January 1, 2002 and July 15, 2008 and exceeded the rate experienced by United during the summer of 2000 (an earlier period of established pilot job actions at United) by approximately 50%. In sum, there is little reason to believe that recent pilot related

cancellations are anything but a concerted effort by United's pilots to exercise leverage over the Company.

EXHIBIT 15: THE FREQUENCY OF PILOT RELATED CANCELLATIONS SINCE THE JULY 15TH WALLACH LETTER EXCEED THE RATE FROM THE SUMMER OF 2000



Sources: United Airlines.
Notes: Percentage of scheduled flights cancelled for KF/KC/KL/KO/ME. All aircraft. June 4 - July 27 of each year.

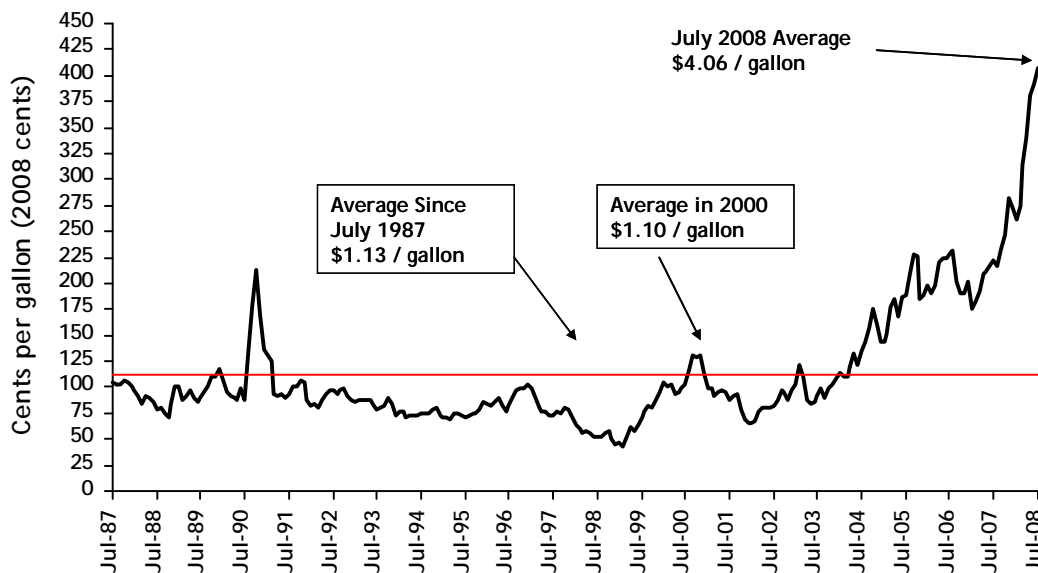
IV. BACKGROUND ON INDUSTRY WIDE CAPACITY CUTS

18. The U.S. airline industry is currently in an extremely weakened and fragile state. Indeed, no fewer than nine U.S. carriers have filed for bankruptcy thus far in 2008, all but two having ceased all operations.¹³ Although the general slowing of the U.S. economy has no doubt contributed to the industry's weakened state, the most important factor currently impacting

¹³ U.S. airlines filing for bankruptcy in 2008 include Big Sky, Champion Air, Aloha Airlines, ATA Airlines, Skybus Airlines, Frontier Airlines, Eos Airlines, Air Midwest and Gemini Air Cargo. Of these nine carriers, only Frontier and Gemini are still operating. Source: <http://www.airlines.org/economics/specialtopics/USAirlineBankruptcies.htm>.

U.S. carriers has been skyrocketing fuel prices. As demonstrated by Exhibit 16, jet fuel prices began to rise above their long term average in the summer of 2004 and then surged to unprecedented levels beginning in the summer of 2007.¹⁴ Likewise, as noted in one recent study by the Air Transport Association of America, airline fuel expenses as a percentage of revenue has more than doubled since 2002 and is now approaching 40%.¹⁵

EXHIBIT 16: AVERAGE REAL MONTHLY JET FUEL PRICES HAVE ALMOST QUADRUPLED SINCE 2000



Sources: US Department of Energy, Energy Information Administration; CPI from Bureau of Labor Statistics.
 Note: Figures represent real monthly averages of the daily jet fuel kerosene spot prices for the New York, Gulf Coast, Los Angeles, Rotterdam (ARA), and Singapore markets. July 2008 through July 23rd.

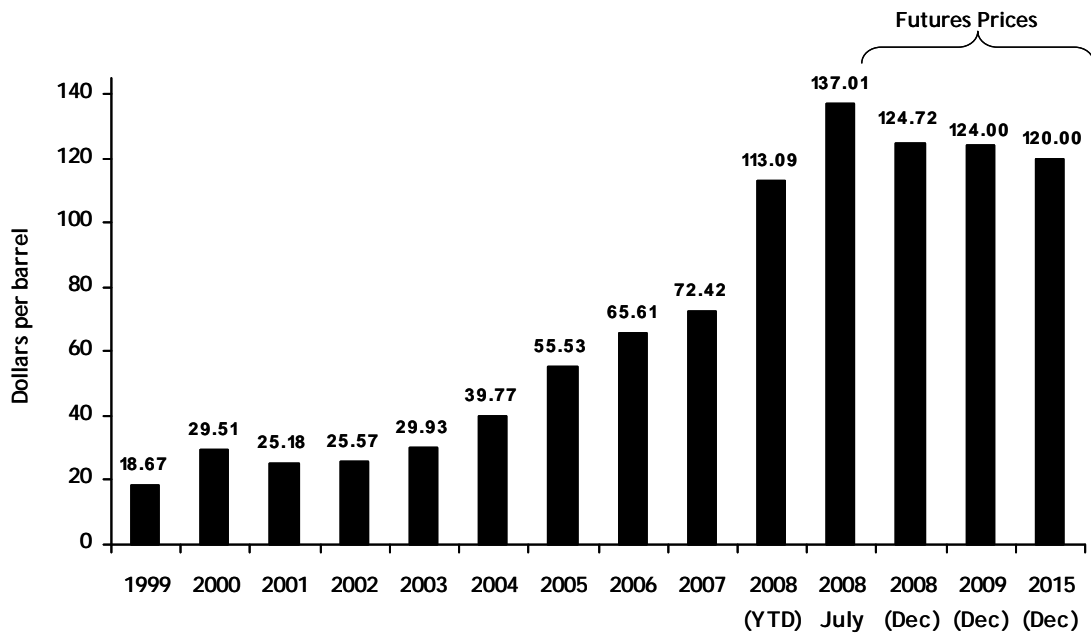
19. Notwithstanding the fact that crude oil prices have experienced a modest decline since peaking at \$145/barrel in early July, they have nevertheless more than quadrupled since 2000, as shown in Exhibit 17. Moreover, based on crude oil futures prices, it appears

¹⁴ To put these figures into context, real jet fuel prices have increased by 300% (from \$1/gallon to \$4/gallon) since United's bankruptcy in December 2002 and have doubled since March 2007.

¹⁵ See *Coping with Sky-High Jet Fuel Prices*, Air Transport Association of America, June 10, 2008.

unlikely that carriers will experience any significant relief from the historically high fuel prices for the foreseeable future.

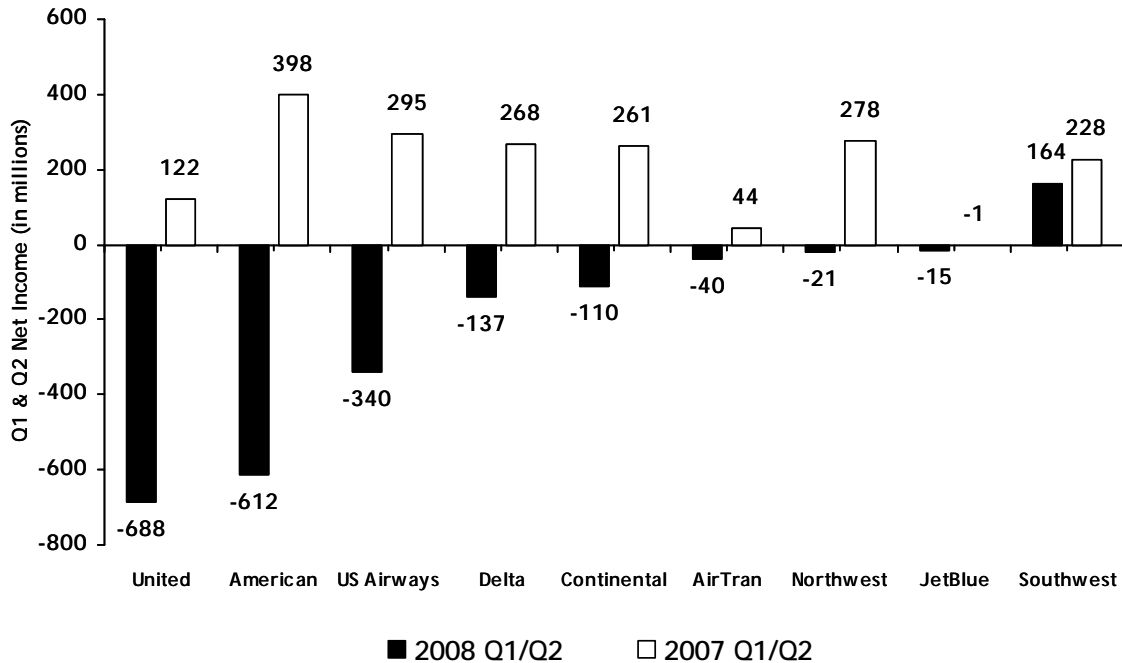
EXHIBIT 17: AVERAGE CRUDE OIL AND FUTURES PRICES



Sources: US Department of Energy, Energy Information Administration, http://online.wsj.com/mdc/public/page/2_3028.html?category=Energy&subcategory=Petroleum&mod=mdc_cmd_pglnk.
 Note: Data for 2008 YTD is the average 2008 price through July 22nd. Prices for December 2008, 2009 and 2015 are the futures prices of crude oil, light sweet (NYM) as of July 28th, 2008. Nominal price per barrel of crude oil.

20. Not surprisingly, skyrocketing fuel prices and a slumping U.S. economy have negatively impacted the financial results of both the legacy network and low cost carriers (“LCCs”). Exhibit 18 compares first half net profits from 2008 versus 2007 and demonstrates that, with exception of Southwest, all of the large U.S. carriers suffered significant losses during the first half of 2008. Moreover, every carrier’s financial performance during the first half of 2008 was dramatically worse than in the first half of 2007, primarily the result of skyrocketing fuel prices.

**EXHIBIT 18: FIRST HALF NET PROFIT FOR LARGE U.S. AIRLINES,
2008 vs. 2007**



Sources: Company Press Releases.
Notes: Excludes special charges. Includes gains from fuel hedging.

21. Given the large financial losses the industry is incurring, airlines have little choice but to raise prices, cut costs and eliminate unprofitable flying in an effort to offset the impact of fuel price increases. But basic economic principles indicate that an increase in fares will lead to a decrease in demand. As the CEO of Northwest explained recently, “We’re looking to pass through those costs as quickly as we can. As those costs get passed through demand shrinks, and so we need to take capacity out.”¹⁶

22. Consequently, most Wall Street analysts predict that the U.S. airline industry will face an increasingly challenging future and must reduce capacity in order to survive. For example, a

¹⁶ Testimony of Douglas Steenland before the House Subcommittee on Oversight and Investigations, June 23, 2008.

recent J.P Morgan report noted that “Should current fuel prices persist, the impact on industry profitability is expected to rival – in not exceed – that of the 9/11 terrorist attacks” while a Merrill Lynch report asserted that “Frankly, we do not believe that the U.S. airline industry can withstand \$100+/bbl oil prices without major structural change and as long as the industry remains highly fragmented, sustainable profitability will remain an elusive goal.”¹⁷ Overall, the consensus among Wall Street analysts is that industry wide capacity must be reduced by approximately 20-22% to restore profitability.¹⁸

23. In sum, United is not alone in its decision to reduce capacity, retire aircraft and furlough employees in response to the unprecedentedly high fuel prices. Indeed, virtually every carrier has been forced to significantly reduce domestic capacity—or in the case of LCCs—dramatically scale back expansion plans. For example:

- Northwest Airlines has announced that it would reduce its domestic mainline capacity by 18 to 19 percent in the fourth quarter of 2008 and remove 47 aircraft from service and eliminate 2,500 jobs.¹⁹
- US Airways has announced it will reduce domestic mainline capacity by six to eight percent in the fourth quarter of 2008 and by eight to ten percent in 2009.²⁰

¹⁷ Source: “Coping With Sky-High Jet Fuel Prices”, Air Transport Association of America, June 10, 2008.

¹⁸ Source: “BTC Warns Congress About Airline Industry Failure”, *PRNewswire*, June 26, 2008.

¹⁹ Source: “Northwest Airlines Reports Second Quarter 2008 Results”, Northwest Airlines Press Release, July 23, 2008 and “Northwest Predicts Revenue Boost From Capacity Cuts”, *Aviation Daily*, July 24, 2008.

²⁰ Source: “US Airways Group, Inc. Reports Second Quarter 2008 Results”, *Business Wire*, July 22, 2008.

- American Airlines has announced that it would reduce domestic mainline capacity by eleven to twelve percent in the fourth quarter of 2008, retire 64 mainline and 63 regional aircraft from its fleet and eliminate 6,500 jobs (approximately 8% of its workforce).²¹
- Continental Airlines has announced that it would shrink domestic capacity by 10 percent starting in September, retire 67 aircraft and eliminate 3,000 jobs.²²
- Delta Air Lines has announced it would reduce domestic capacity by 13% in the second half of 2008 by removing 15-20 mainline and 100 regional jet aircraft from its fleet by the end of 2008.²³
- Midwest Airlines has announced that it would reduce capacity by 30 to 40 percent and eliminate 40% of its workforce.²⁴
- AirTran has announced it would reduce capacity in the last four months of 2008 by seven to eight percent and by an additional four to eight percent in 2009.²⁵

²¹ Source: “AMR Corporation Reports Second Quarter 2008 Net Loss of \$284 Million Excluding Special Items as Record Fuel Prices Drove \$838 Million in Higher Costs Compared to a Year Ago”, Company Press Releases, July 16, 2008, and “American Airlines’ parent AMR to cut 6,500 or more jobs”, *The Dallas Morning News*, July 3, 2008.

²² Source: “Continental Airlines Announces Second Quarter Loss.” PRNewswire-First Call, July 17, 2008.

²³ Source: “Delta Air Lines Reports June 2008 Quarter Financial Results”, Company Press Release, July 16, 2008 and “Delta Air Lines Reports March 2008 Quarter Financial Results”, Company Press Release, April 23, 2008

²⁴ Source: “Midwest Airlines will reduce flights from Kansas City This Fall”, *The Kansas City Star*, July 20, 2008 and “Nine SkyWest CRJ200s to exit the Midwest Connect Network”, *Air Transport Intelligence*, July 21, 2008.

²⁵ Source: “AirTran Holdings Inc., Reports Second Quarter Results”, PRNewswire-First Call, July 29, 2008.

V. IDENTIFICATION

24. Daniel M. Kasper is Managing Director of LECG, LLC. (formerly, The Law & Economics Consulting Group) and head of the firm's transportation practice. LECG provides expert analysis and management consulting in economics, accounting, and finance. Mr. Kasper's business address is 350 Massachusetts Avenue, Suite 300, Cambridge, Massachusetts 02319. Mr. Kasper has over 25 years of experience at LECG, Coopers & Lybrand, L.L.P., Harbridge House, Inc., and the U.S. Civil Aeronautics Board ("CAB") dealing with issues involving competition, competition policy, economics and finance in the airline (and other) industries. Mr. Kasper has also served on the faculties of the Harvard Business School and the University of Southern California School of Business Administration for a total of ten years. In 1993, Mr. Kasper was one of 15 appointed members of the U.S. National Airline Commission, a body created by Congress to evaluate and make recommendations on how to improve the performance of the U.S. airline and aerospace industries. In addition, Mr. Kasper has served as a consultant to the U.S. Departments of Transportation, State and Defense, on various airline industry matters and has also testified as an expert on airline and aviation industry matters before courts and federal administrative agencies, as well as legislative bodies and antitrust authorities both in the United States and abroad. Mr. Kasper's *curriculum vitae* is attached as Appendix A.

25. Darin Lee is a Principal in the Cambridge, MA office of LECG, LLC and specializes in airline economics, auctions and industrial organization. Dr. Lee has over 10 years of experience providing consulting services to numerous domestic and international airlines (both passenger and cargo) as well as industry trade associations and labor organizations on a wide variety of economic and financial matters involving the airline industry including bankruptcy reorganization, alleged anti-competitive behavior, codesharing and antitrust immunity applications, mergers, labor disputes and business interruption matters. Dr. Lee has published numerous articles on various aspects of airline economics in leading, peer-reviewed, academic journals such as *The Journal of Law & Economics*, the *Journal of Labor Economics*, the *Southern Economic Journal* and the *Journal of Economics and Business* and is editor of the *Advances in Airline Economics* book series published by Elsevier. Dr. Lee has testified in U.S. Federal Court and has filed testimony before the U.S. Department of Transportation on matters related to the airline industry. In addition to his expertise in the airline industry, Dr. Lee is also an expert in auctions, having served as primary bid strategist for numerous global telecommunication and Internet firms in many of the world's largest spectrum auctions, including those in the U.S., U.K., Egypt and Nigeria. Dr. Lee received a Ph.D. in Economics from Brown University and also holds an M.A. in Economics from Queen's University in Kingston, Ontario and a B.A. in Economics from the University of Victoria, Canada. Dr. Lee has taught graduate level courses in economics at the University of Colorado-Denver. Dr. Lee's *curriculum vitae* is attached as Appendix B.

Pursuant to 28 U.S.C. § 1746, we declare under penalty of perjury that the foregoing is true and correct.

Executed on July 30, 2008.



Daniel M. Kasper



Darin N. Lee

APPENDIX A: CURRICULUM VITAE OF DANIEL M. KASPER

DANIEL M. KASPER
LECG, LLC
350 Massachusetts Avenue
Suite 300
Cambridge, MA 02139

EDUCATION

BA, Political Science, UNIVERSITY OF KANSAS
Masters in Business Administration, UNIVERSITY OF CHICAGO
Juris Doctorate, UNIVERSITY OF CHICAGO

PRESENT POSITION

LECG November 1997-present
Managing Director, Cambridge, MA Office

At LECG, Mr. Kasper has focused his practice on the transportation industry. He has provided consulting services as well as expert economic analysis and testimony for a variety of clients in both the private and public sectors in the aviation, rail, trucking and maritime industries.

PREVIOUS EXPERIENCE

COOPERS & LYBRAND, Consulting 1993-1997
Partner and Chairman Transportation Industry Program

Mr. Kasper headed C&L's Transportation Industry Program where he directed a number of engagements involving domestic and international transportation clients in both the private and public sectors. He also appeared frequently as an expert witness before Federal courts, regulatory agencies, and the Congress of the United States.

UNITED STATES NATIONAL AIRLINE COMMISSION, 1993
Member

In 1993, Mr. Kasper was appointed and served as one of fifteen voting members of the US National Airline Commission, a body established by Congress to examine and make suggestions for strengthening the U.S. airline and aerospace industries. The Commission submitted its Report and recommendations to the President and Congress in September of 1993.

HARBRIDGE HOUSE, INC. 1983-1993

Vice President, Director and Head of the Transportation Practice

Mr. Kasper managed the firm's transportation practice and was responsible for a wide array of projects involving domestic and international transportation issues. He also served as an expert witness in numerous proceedings before Federal and state courts, regulatory agencies and legislative bodies.

UNITED STATES CIVIL AERONAUTICS BOARD, 1979-1983

Director of International Aviation

From January 1980 through September 1983, Mr. Kasper served as Director of International Aviation, the Board's primary advisor and chief line officer for all matters involving international aviation. During his tenure as Director, Mr. Kasper was instrumental in developing and implementing a pro-competitive U.S. international aviation policy.

Executive Assistant to Civil Aeronautics Board Member

From July through December of 1979, Mr. Kasper served as chief staff advisor to Board Member and Vice-Chairperson Elizabeth E. Bailey. In that capacity, he was responsible for reviewing all matters pending before the Board and advising Ms. Bailey on proper disposition of those matters. Matters dealt with by the Board during that period included a number of proposed airline mergers, the allocation of takeoff and landing slots, potential barriers to entry posed by control of gates at congested airport facilities, retail marketing of air transportation, pricing policy, and a request for antitrust immunity by the International Air Transport Association.

HARVARD UNIVERSITY, BUSINESS SCHOOL, 1976-1981

Faculty

At Harvard Business School, Mr. Kasper specialized in two principal areas: the impact of alternative forms of government regulation on the management and performance of business organizations and on the study of national economic policies and strategies. Mr. Kasper authored a number of case studies on various aspects of the transportation and telecommunication industries.

While at Harvard, Mr. Kasper was a member and active participant in the Harvard Regulatory Reform Project conducted under the auspices of the Kennedy School of Government. He also consulted with firms in the telecommunications and computer industries to help them anticipate and prepare for the impact of telecommunications deregulation on their businesses.

UNIVERSITY OF SOUTHERN CALIFORNIA, 1971-1976

Faculty

While at USC, Mr. Kasper developed, administered and taught courses dealing with the control of business activities by means of direct government regulation, the enforcement of private contracts, and through the use of tort law. His research focused on the regulation of transportation, telecommunications industries and workplace safety. He also served as a member of the Faculty Senate.

TESTIMONY SINCE 2003

Innovative Solutions and Support, Inc. vs. J2, Joseph Caesar, James Zachary, Zachary Technologies, Inc and Kollsman, Inc.,

Expert report and testimony regarding damages arising from alleged misappropriation of intellectual property contained in aircraft components. United States District Court, Western District of Tennessee Western Division, Case No.: 05-2665-MI P

Alaska Airlines, Inc., et al v. Los Angeles World Airports, et al

Expert analysis of economic claims arising in a dispute over rates and charges imposed on airport tenants by Los Angeles World Airports. US DOT, Docket-OST-2007-27331, February 16, 2007.

City of Baton Rouge et al vs. American Home Assurance Company And J. Calderera & Company, Inc.,

Expert analysis of claim for damages arising from delays in completion of an airport terminal project. January 2007. District 19th Judicial District Court, Number 493,788 Div: "D" State of Louisiana, January 2007

Comments on Proposed Operating Limits at New York LaGuardia Airport

Written comments on proposed operating limits at LGA. FAA Docket No. 2006-25709, December 2006 and June 2008 (with Darin N. Lee).

Comments on Notice of Proposed Rulemaking Congestion Management for John F. Kennedy International Airport And Newark Liberty International Airport

Written comments (with Darin N. Lee) on proposed changes in operating limits and slot allocations at JFK and EWR Docket No. FAA-2008-0517, July 2008

Joint Application of Alitalia-Linee Aeree Italiane-S.P.A., Czech Airlines, Delta Air Lines, Inc., KLM Royal Dutch Airlines, Northwest Airlines, Inc., Société Air France

Written expert testimony on various matters of airline industry economics and competition in conjunction with a request for antitrust immunity by carriers seeking to participate in an international aviation alliance. US DOT, OST-2004-19214, 2005.

In Re Delta Air Lines, Inc. et al., Bankruptcy Litigation

Expert analysis and trial testimony regarding airline industry economics, finance and competition. The United States Bankruptcy Court for the Southern District of New York, Chapter 11 Case No. 05-17923 (PCB), 2005-2006.

In Re US Airways, Inc., et al., Bankruptcy Litigation

Expert analysis, deposition and trial testimony regarding airline industry economics, finance and competition, The United States Bankruptcy Court for the Eastern District of Virginia, Case No. 04-13819. 2004-2005.

In Re UAL Corporation, et al., Bankruptcy Litigation

Expert reports and testimony on airline industry economics, finance and competition, The United States Bankruptcy Court for the Northern District of Illinois, Eastern Division, Case No. 02-B-4819, 2002-2005

In Re Northwest Airlines, et al., Bankruptcy Litigation

Expert analysis and trial testimony regarding airline industry economics, finance and competition. The United States Bankruptcy Court for the Southern District of New York, Chapter 11 Case No. 05-17930 (ALG), 2005-2006.

Atlantic Coast Airlines Holdings, Inc. v. Mesa Air Group, Inc.

Expert report and deposition testimony involving airline economics and competition in connection with an attempted acquisition. United States District Court for the District of Columbia, Civil Action No. 03-2198 (RMC), 2003/2004.

In re Atlas Air Worldwide Holdings

Expert analysis of air cargo markets as part of a valuation of Polar Air Cargo's ("Polar") U.S.-Japan route air cargo authority and associated slots at Narita airport in Tokyo, Japan. U.S. Bankruptcy Court, Southern District of Florida, Case No. 04-10792-BKC-RAM through 04-10796-BKC-RAM (Jointly Administered under Case Number 04-10792-BKC-RAM), 2004.

Kalitta Air, L.L.C., v. Central Texas Airborne Systems, Inc.

Expert analysis and deposition testimony regarding air cargo markets damages claims arising out of alleged flaws in the conversion of certain aircraft from passenger to cargo configuration. Northern District of California, 2003-2004.

United Airlines v. Insurance Company of the State of Pennsylvania

Expert analysis regarding airline economic losses arising from the closure of U.S. airspace and airports following the attacks of September 11th, 2001. Civil Action no. 03CV 5189 (RMB), Southern District of New York, 2004.

Steven Geelan, et al., vs. Mark Travel, Inc.

Expert analysis of the economic and airline industry conditions that led to the shut down of operations and the lay offs of employees in late 2001. United States District Court, District of Minnesota. Civil No. 03-6322 DSD/JSM, 2006.

BOOKS

- 1) *Deregulation and Globalization: Liberalizing International Trade in Air Services*, Ballinger Publishers, Cambridge, MA, 1988.
- 2) *The US Regional Airline Industry to 1996: Markets, Competition, and the Demand for Aircraft*, The Economist Publications, London & New York, 1987.

PROFESSIONAL AFFILIATIONS

Member of the Illinois Bar
Member of the California Bar
Member, American Bar Association

APPENDIX B: CURRICULUM VITAE OF DARIN N. LEE

LECG, LLC
350 Massachusetts Ave., Suite 300
Cambridge, MA 02139
Tel: +1 (617) 761-0108
Fax: +1 (617) 621-8018
E-mail: darin_lee@lecg.com
Website: <http://www.darinlee.net/>

EDUCATION

Ph.D., Economics, BROWN UNIVERSITY, Providence, RI, 1998
Specialized Fields: Game Theory, Microeconomic Theory, Industrial
Organization & Bargaining Theory
A.M., Economics, BROWN UNIVERSITY, Providence, RI, 1995
M.A., Economics, QUEEN'S UNIVERSITY, Kingston, Canada, 1993
B.Sc. (Honors), UNIVERSITY OF VICTORIA, B.C., Canada, 1991

PRESENT POSITION

LECG, LLC, Cambridge, MA, July 2005 – Present
Principal, Transportation and Auction Groups

LECG, LLC, Cambridge, MA, January 2002 – June 2005
Senior Managing Economist, Transportation and Auction Groups

LECG, LLC, Cambridge, MA, January 2001- December 2001
Managing Economist, Transportation and Auction Groups

LECG, LLC, Cambridge, MA and Emeryville, CA, July 1998 - December
2000
Senior Economist, Transportation and Auction Groups

PUBLICATIONS IN REFEREED JOURNALS

- 1) “Retracting a Gift: How Does Employee Effort Respond to Wage Reductions?”, with Nicholas Rupp, *Journal of Labor Economics*, Volume 25, Number 4, October 2007, pages 725-762.
- 2) “Domestic Codesharing, Alliances and Airfares in the U.S. Airline Industry”, with Harumi Ito, *The Journal of Law & Economics*, Volume 50, pages 355-380, 2007.
- 3) “The Impact of Passenger Mix on Reported Hub Premiums in the U.S. Airline Industry,” with María José Luengo Prado. *Southern Economics Journal*, Vol. 72, No. 2, pp. 372–394, 2005.
- 4) “Comparing the Impact of the September 11 Terrorist Attacks on International Airline Demand,” with Harumi Ito. *International Journal of the Economics of Business*, Volume 12, No. 2, pages 225-249, 2005.
- 5) “Domestic Codesharing Practices in the U.S. Airline Industry”, with Harumi Ito, *Journal of Air Transport Management*, Vol. 11, No. 2, pages 89-97, 2005.
- 6) “Assessing the Impact of the September 11th Terrorist Attacks on U.S. Airline Demand,” with Harumi Ito. *Journal of Economics and Business*, Volume 57 (1), pp. 75-95, 2005.
- 7) “Entry Patterns in the Southwest Airlines Route System,” with Charles Boguslaski and Harumi Ito. *Review of Industrial Organization*, Volume 25 (3), pp. 317-350, 2004.
- 8) “Are Passengers Willing to Pay More for Additional Legroom?” with María José Luengo Prado. *Journal of Air Transport Management*, Volume 10, No. 6, pp. 377-383, 2004.
- 9) “Lessons from the Nigerian GSM Auction,” *Telecommunications Policy*, Volume 27, pp. 407-416, 2003.
- 10) “An Assessment of Some Recent Criticisms of the U.S. Airline Industry’,” *Review of Network Economics*, Vol. 2(1), pp. 1-9, March 2003.
- 11) “Concentration and Price Trends in the U.S. Domestic Airline Industry,” *Journal of Air Transport Management*, Volume 9, No. 2, pp. 91 –101, 2003.
- 12) “The Core for Economies with Asymmetric Information: An Axiomatic Approach,” with Oscar Volij, *Journal of Mathematical Economics*, Vol. 38, 1, pp.43-63, 2002.
- 13) “A Note on Individualistic Foundations of the Core in Economies with Asymmetric Information,” *Economics Letters*, Volume 61, pp. 203-208, 1998.

BOOKS, BOOK CHAPTERS AND WORK IN PROGRESS

- 1) *Advances in Airline Economics, Volume 1, Competition and Antitrust*, Editor. Amsterdam: Elsevier, 2006.
- 2) *Advances in Airline Economics, Volume 2, The Economics of Airline Institutions, Operations and Marketing*, Editor. Amsterdam: Elsevier, 2007.
- 3) “The Impact of Domestic Codesharing on Market Airfares: Evidence from the U.S.”, with Harumi Ito, in *Advances in Airline Economics, Volume 1*, Darin Lee, Editor, pages 141-162. Amsterdam: Elsevier, 2006.
- 4) “Market Density and Low Cost Carrier Entries in the U.S. Airline Industry: Implications for Future Growth,” with Harumi Ito, forthcoming in *Low Cost Carriers – A Global Experience*. Bangalore, IBS Press, 2006.
- 5) “Incumbent Responses to Lower Cost Entry: Evidence from the U.S. Airline Industry,” with Harumi Ito, Unpublished Manuscript, November 2003.

OTHER PAPERS AND PUBLICATIONS (NON REFEREED)

- 1) DARIN LEE, “Liberalizing the U.S.- Hong Kong Air Transport Agreement: The Importance of Codesharing Opportunities,” May 2001
- 2) DARIN LEE, “Lessons from the Nigerian GSM Auction,” *LECG Perspectives*, January 2002.

UNIVERSITY TEACHING EXPERIENCE

UNIVERSITY OF COLORADO-DENVER, Department of Economics, 1994 and 1995, Visiting Lecturer

Courses in Graduate Microeconomics and Mathematical Economics.

BROWN UNIVERSITY, Department of Economics, Fall 1993 - Spring 1997
Teaching Assistant

Courses in Microeconomics, Bargaining Theory, Game Theory, Industrial Organization and Macroeconomics

PROFESSIONAL ENGAGEMENTS

Expert Testimony & Reports

- Filed expert declaration in the matter of Congestion Management Rule for John F. Kennedy International Airport and Newark Liberty International Airport, U.S. Department of Transportation Docket No. FAA-2008-0517.
- Filed expert declaration in the matter of Congestion Management Rule for LaGuardia Airport, U.S. Department of Transportation Docket No. FAA-2006-25709.
- Expert report, deposition and trial testimony in *Gary H. Ramey, et. al vs. District 141, International Association of Machinists and Aerospace Workers, et. al. United States District Court, Eastern District of New York, 2007.*
- Filed expert report in *Republic/NFR & C. Parking of Louisville v. Regional Airport Authority of Louisville and Jefferson County*, Civil Action No. 3:01CV-633-S.
- Filed expert declaration in Star Alliance Application for Antitrust Immunity, Before the U.S. Department of Transportation, Dockets OST-05-22922, OST-96-1434.
- Filed expert testimony in SkyTeam Application for Antitrust Immunity, Before the U.S. Department of Transportation, Docket No OST-2004-19214.

Airline Labor Matters: Dr. Lee is an expert in labor matters regarding the airline and related industries. Over the past several years, Dr. Lee has actively advised numerous air carriers on wide range of labor matters, including:

- For several major U.S. airlines (both mainline and regional), provided expert analysis regarding labor negotiations in advance of Chapter 11 bankruptcy as well as analyses in conjunction with Section 1113(c), 1113(e) and 1114 contract relief.
- For several major U.S. airlines, provided expert analysis to support labor contract negotiations.
- For a large airline union, provided independent expert testimony in class action lawsuit brought forth by a class of its members regarding effects of September 11th on U.S. airline industry.

- For an international airline caterer, provided expert analysis to support labor contract interest arbitration.
- For several major U.S. airlines, provided expert analysis in support of forced majeure labor arbitrations.
- For a major U.S. carrier, analysis of industry & economic issues in conjunction with Presidential Emergency Board regarding pilot negotiations.

Airline Economics, Competition Policy, and Financial Damages: Dr. Lee is an expert in the airline industry and has in-depth knowledge of the economics of the airline industry, airline data, regulatory and competition policy issues. Representative case experience includes:

- Provide expert consulting services to several major U.S. mainline and regional airlines in connection with Chapter 11 reorganization.
- Provide expert consulting services to several U.S. carriers contemplating potential mergers.
- Provide expert testimony and analysis for international airline alliances in support of antitrust immunity applications.
- Analysis of industry, economic & antitrust issues on behalf of three major U.S. airlines and industry group in class action suit regarding hidden city ticketing.
- Provided valuation of a major carrier's U.S. slot holdings.
- Provided valuation of a major carrier's Narita slots holdings and route authority.
- Comments on behalf of industry airline association regarding the use of market based mechanisms to reduce delay and congestion at U.S. airports.
- Analysis of industry, economic & antitrust issues on behalf of a major U.S. airline regarding the use of baggage templates at Dulles International Airport. (U.S. District Court for the Eastern District of Virginia, Civil Action No. 00-684-A).
- Provide consulting services to major industry group with regards to slot auctions and congestion pricing.
- Analysis of proposed rule making regarding demand management options at New York's LaGuardia airport.

- Industry analysis for major airline in conjunction with post 9/11 workforce reductions.
- Analysis of industry & economic issues on behalf of industry backed Internet travel agency.
- Analysis of industry & economic issues for major U.S. and European alliance partners regarding a potential immunized alliance and Open Skies.
- Analysis of discriminatory airport rates, charges and access fees by U.S. and Canadian airports for air carriers and ground transportation providers.
- Authored whitepaper on behalf of major U.S. airline in support of codesharing application with major Hong Kong airline.
- Analysis of industry & economic issues on behalf of Chamber of Commerce for a U.S. metropolitan hub city.
- Analysis of consolidation strategies for a major U.S. airline in conjunction with the proposed and realized industry mergers of 2001.
- Analysis of industry, economic & antitrust issues on behalf of United Air Lines in *United Air Lines v. Mesa Airlines and Westair Commuter Airlines*. (United States District Court for the Northern District of Illinois Eastern Division, No. 97 C4455).
- Analysis of industry, economic & damage issues on behalf of GATX/Airlog in *GATX/Airlog v Evergreen International Airlines, Bank of New York, AIA, and G.E. Capital*. (U.S. District Court, Oakland Division, No. C96-2494CW).
- Analysis of industry and economic issues on behalf of American Airlines regarding application for new service to China.
- Analysis of industry & damage issues for ValuJet/AirTran in *ValuJet/AirTran vs Sabreliner and SabreTech*. (Circuit Court of St. Louis County, State of Missouri #97CV-003725)
- Analysis of industry & economic issues for a major U.S. airline in predatory pricing suit.
- Analysis of industry & economic issues for a major U.S. airline in response of allegations of hub dominance.

- Analysis of industry, regulatory and economic issues for a major U.S. airline and Canadian holding company during negotiations regarding the potential acquisition of Canadian Airlines.

Auctions and Markets: Dr. Lee also specializes in the auctions, markets and game theory. He has served as Auction Strategist for numerous wireless telecommunication firms during spectrum auctions in the US, UK, Nigeria, Egypt, Brazil and Switzerland where he was responsible for rules analysis, development of bidding strategies, and round-by-round analysis of bidding behavior. Dr. Lee has also provided auction advice to firms in the electricity, airline and diamond industries and has published articles on auctions and game theory in policy journals such as *Telecommunications Policy* as well as leading economic journals such as the *Journal of Mathematical Economics* and *Economics Letters*. Representative engagements include:

- Chief auction strategist for a large bidder in FCC Auction #73, 2007-2008.
- For a U.S. wireless telecommunications firm (2006): Chief auction strategist during FCC auction #66 (AWS).
- For a major auction software company (2006): Provided logic and software beta testing for Illinois electric capacity auction software.
- For a major African wireless telecommunications firm (2006): Chief auction strategist during Egyptian Mobile License Auction.
- For a major auction software company (2002): Analyzed rules and tested software for Texas Electricity Capacity auction.
- Advised U.S. General Accounting Office (GAO) on matters regarding spectrum auctions.
- For an industry group representing major U.S. Airlines (2001-): Consulting services on the feasibility of airport take-off and landing slot auctions.
- For a major producer and market maker of diamond rough (2001-): Consulting services on pricing, auctions, and market microstructure.
- For a major U.S. Electric Utility (2001): Auction Design Consultant, Basic Services Generation Auction (New Jersey)

- For a major wireless provider in South Africa (2000/2001): Principal Auction Strategist, Nigerian GSM auction.
- For an international telecommunications firm (2000): Principal Auction Strategist, UK LMDS auction.
- For an international telecommunications firm (1999-2000): Principal Auction Strategist, UK 3G auction.
- Provided bid strategy advice to bidder in the Swiss LMDS auction. (2000)
- Provided analysis of the “winner’s curse” in U.S. vs. Nextwave bankruptcy settlement (U.S. C-block auction). (1999)
- Advised the Colombian government on efficient auction design for PCS service. (1998)
- Provided bid strategy advice to bidder in the Brazil B block auction. (1998)

CONFERENCE AND OTHER INVITED PRESENTATIONS

- Embraer Semi-Annual AMA’s Meeting, Sao Jose dos Campos, Brazil, May 29, 2007.
- International Industrial Organization Conference, Atlanta, April 2005.
- American Economic Association Winter Meetings, Philadelphia, January 2005.
- International Industrial Organization Conference, Chicago, April 2004.
- Southern Economics Association Annual Conference, San Antonio, November 2003.
- Federal Reserve Bank of Chicago, June 2003.
- International Industrial Organization Conference, Boston, April 2003.
- Stony Brook International Game Theory Conference, July 1997

Journal Referee For:

Journal of Industrial Economics, Southern Economic Journal, Journal of Law, Economics & Organization, Review of Industrial Organization, Journal of Urban Economics, Journal of Transport Economics and Policy, Telecommunications Policy, Journal of Air Transport Management

PROFESSIONAL AFFILIATIONS

International Industrial Organization Society
Sloan Industry Studies Affiliate

HONORS AND AWARDS

Abramson Dissertation Prize, Department of Economics, Brown University,
1997

Stephen Ehrlich Foundation Research Grant, Brown University, 1997

Stephen Ehrlich Foundation Research Grant, Brown University, 1996