



Delivering the Benefits? Efficiencies and Airline Mergers

November 21, 2013

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I. Introduction

The merger of US Airways and American – a deal that will create the largest domestic passenger airline – will be a watershed for antitrust enforcement involving commercial aviation. It is the first contested case in which arguments that the merger would be likely to adversely affect competition and consumers drew upon direct evidence of higher fares and service cutbacks in previous airline mergers. This evidence bolstered the case made by the U.S. Department of Justice (DOJ), along with seven states and the District of Columbia, to enjoin the merger.² US Airways-American, on the other hand, focused much of their response to the government’s Complaint on how the combination would produce substantial efficiencies, in the form of cost savings and consumer (“network”) benefits.³

Now that a settlement between the DOJ and the airlines has been reached, the opportunity for the court to explore US Airways-American efficiencies “defense” has passed. That process would likely have relied, in part, on direct evidence of whether promised efficiencies in previous airline mergers actually materialized.⁴ Indeed, if prior mergers had produced the predicted cost savings and network benefits, other things being equal, airline fares should be lower and consumers the beneficiaries of greater “connectivity.” But mounting evidence indicates that this is not the case.⁵ Moreover, public backlash to

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² U.S. v. US Airways Group, Inc. and AMR Corporation, *Amended Complaint*, 1:13-cv-01236-CKK (D.C. Cir.) (Sept. 5, 2013).

³ *See, e.g.*, U.S. v. US Airways Group, Inc. and AMR Corporation, *Defendant AMR Corporation’s Answer [And Affirmative Defenses] to Plaintiffs’ Amended Complaint*, 1:13-cv-01236-CKK (D.C. Cir.) (Sept. 10, 2013). Efficiencies are also referred to as “synergies.”

⁴ US Airways-American will move forward unless the court makes an unusual determination under its Tunney Act review that the settlement is not in the public interest.

⁵ For a comprehensive discussion, see John T. Kwoka, *Does Merger Control Work? A Retrospective on U.S. Enforcement Actions and Merger Outcomes*, 78 ANTITRUST LAW JOURNAL 619 (2013), at 633.

previous mergers is significant, as reflected in criticism of protracted system integrations, service cutbacks, and the deteriorating quality of commercial passenger service.

This AAI White Paper explores these issues by examining the record on efficiencies that were promised in previous airline mergers. It goes the extra step to ask whether past mergers created inefficiencies that impose costs on consumers. The paper begins with a brief overview of how efficiencies are treated under the recently revised, 2010 U.S. Department of Justice (DOJ)/Federal Trade Commission (FTC) HORIZONTAL MERGER GUIDELINES (GUIDELINES).⁶ Next is an analysis of the types of efficiencies that are typically projected in airline mergers. The paper then frames and answers a number of key questions: (1) How do the actual costs of integrating systems in previous mergers of hub-and-spoke network airlines compare to predicted costs? (2) What can be said about whether network benefits such as increased “connectivity” projected in previous mergers have materialized? (3) Do mergers of large hub-and-spoke network airlines produce inefficiencies that impose costs on consumers? The final section draws conclusions and offers some insight into the implications of the recent US Airways-American settlement for airline efficiencies analysis. Major themes that emerge from the analysis include:

- *Skepticism about projected efficiencies has likely caused airlines to load most of their projected efficiencies onto consumer (network) benefits, which are harder for antitrust enforcers to verify.*
- *System integration (e.g., integrating reservation and IT systems and combining workforces) in some past mergers has been difficult, protracted, and more costly than what was predicted by the airlines.*
- *Promises of network benefits involving increased “connectivity” in past mergers appear not to have fully materialized. Airlines cut airport-pairs from their systems after their mergers.*
- *Changes in carrier-caused delays since the last wave of airline consolidation emphasize the importance of further examining whether more intensive, merger-induced “hubbing” has exacerbated congestion.*
- *Expensive system integrations, loss of connectivity, and increased network congestion in the wake of previous airline mergers imply that promised efficiencies were overestimated, have not materialized as predicted, and potentially create inefficiencies. These effects limit cost savings and the potential for lower fares, shrink consumer benefits, and impose additional costs on consumers.*
- *In the event future airline mergers are proposed, antitrust enforcers should significantly discount predicted efficiencies and “net” estimated merger-induced inefficiencies from the carrier’s predictions.*

⁶ U.S. Department of Justice/Federal Trade Commission, HORIZONTAL MERGER GUIDELINES (2010), at §1. Available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf>.

II. The HORIZONTAL MERGER GUIDELINES' Approach to Efficiencies

The GUIDELINES provide useful insight into how the antitrust agencies evaluate efficiencies. In principle, the GUIDELINES set a high bar for efficiencies claims. For example, they note that the antitrust agencies will view projections of efficiencies with skepticism, and that “claims substantiated by analogous past experience are those most likely to be credited.”⁷ Equally relevant for airline mergers is the GUIDELINES’ requirement that cognizable efficiencies be “assessed net of costs produced by the merger or incurred in achieving those efficiencies.”⁸

The basic notion underlying the GUIDELINES’ approach to efficiencies is that they must be merger-specific and “cognizable.” Cognizable efficiencies include items such as cost savings and other benefits allegedly created by the merger that can be verified (i.e., are not vague or speculative). The GUIDELINES emphasize that when the potential adverse competitive effect of a merger is likely to be particularly substantial, “extraordinarily great cognizable efficiencies would be necessary to prevent the merger from being anticompetitive” and that “the more [such efficiencies] must be passed through to customers, principally in the form of lower prices.”⁹

One notable judicial confirmation of the “balancing” principle inherent in the GUIDELINES is the D.C. Circuit’s decision involving the merger of baby food manufacturers Heinz and Beechnut. In that case, the court found that efficiencies were insufficient to countervail the high concentration created by the merger.¹⁰ The Amended Complaint in US Airways-American is also unequivocal in this regard: “There are not sufficient acquisition-specific and cognizable efficiencies that would be passed through to U.S. consumers to rebut the presumption that competition and consumers would likely be harmed by this merger.”¹¹ It is clear that the GUIDELINES’ requirements regarding efficiencies create a relatively high hurdle for mergers in general. As the following sections unfold, it becomes apparent that airline mergers raise particularly difficult efficiencies questions that are central to a GUIDELINES analysis.

III. Airline Efficiencies – The Shift Toward Network Benefits

Previous airline mergers promised substantial efficiencies at the time the deals were reviewed by antitrust enforcers. As shown in Table 1, US Airways-America West forecast \$600 million annually in efficiencies when they proposed to merge in 2005.¹²

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* In Staples-Office Depot, for example, the court concluded that the magnitude of the likely pass-through rate was insufficient to rebut the presumption that the proposed merger would substantially lessen competition. See *Federal Trade Commission v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997), at 6.

¹⁰ *Federal Trade Commission v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001).

¹¹ *Amended Complaint*, *supra* note 2, at 33.

¹² *U.S. Airways Group, Inc. Investor Presentation*, November 15, 2006, at 24, U.S. Airways Group, Inc., *Form 10-K* (2005), at 20, and 50-51; and *Creating a Premier Global Carrier*, February 14, 2013, at 17, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTcxNzQxfENoaWxkSUQ9LTF8VHlwZT0z&t=1>.

Delta-Northwest projected \$2 billion in efficiencies in 2008.¹³ United-Continental estimated \$1.0 to \$1.2 billion in efficiencies in 2010 and Southwest-AirTran over \$400 million, also in 2010.¹⁴ US Airways-American predicted efficiencies of about \$1.05 billion in 2013.¹⁵

Table 1: Predicted Efficiencies in Past Airline Mergers

Merger	Total Predicted Efficiencies (annual)	Network Benefits v. Cost Savings
US Airways-America West (2005)	• \$600M	• ~ 50 - 60% network • ~ 40 - 50% cost
Delta-Northwest (2008)	• \$2.0B • beginning 2012	• ~ 70% network • ~ 30% cost
United-Continental (2010)	• \$1.0 - 1.2B • beginning 2013	• ~ 75 - 80% network • ~ 20 - 25% cost
Southwest-AirTran (2010)	• \$400M+ • beginning 2013	N/A
US Airways-American (2013)	• \$1.05B (Feb. 2013) • \$650M (Sept. 2013) • beginning 2015	• ~ 75 - 85% network • ~ 15 - 25% cost
N/A – not available		

There are two categories of efficiencies that are typically estimated in airline mergers – cost savings and consumer (network) benefits. Cost efficiencies are the projected savings that result from a variety of sources: integrating information systems, better utilization of gate space and other facilities such as hangars and leaseholds, and increased operational efficiency. The GUIDELINES are inherently skeptical of cost efficiencies. More weight is given to marginal cost reductions that are passed on immediately to consumers in the form of lower prices. This stands in contrast to projected reductions in fixed costs that increase profits and take more time, if eventually obtained, to percolate through to consumers.

Airlines have historically fumbled on cost efficiency claims. Many of the types of cost

¹³ *Delta Air Lines, Northwest Airlines Combining to Create America's Premier Global Airline*, NEWS.DELTA.COM, April 14, <http://news.delta.com/>, and *Delta and Northwest Merge, Creating Premier Global Airline*, NEWS.DELTA.COM, October 29, 2008, <http://news.delta.com/>. When the merger was announced in April 2008, the airline announced only \$1 billion in annual revenue and cost savings. In October, 2008 this was revised to \$2 billion. The breakdown between cost savings and network benefits derived from *Creating a Premier Global Carrier*, *supra* note 12, at 17. This source estimates proportions based on percentage contribution to pro forma revenue.

¹⁴ *Let's Fly Together*, UNITEDCONTINENTALHOLDINGS.COM, May 3, 2010, at 18, <http://ir.unitedcontinentalholdings.com/phoenix.zhtml?c=83680&p=irol-presentations>. *Southwest Airlines to Acquire AirTran: Spreading Lower Fares Farther*, SOUTHWEST.INVESTORROOM.COM, September 27, 2010, <http://southwest.investorroom.com/index.php?s=43&item=336>, Southwest Airlines, *Form 10-K* (2010), at 40 and Southwest Airlines, *Form 10-K* (2012) at 46.

¹⁵ *Creating a Premier Global Carrier supra* note 12, at 16-17. In their Answer to the DOJ's Complaint, American Airlines cites network benefits of \$500 million annually and cost synergies of \$150 million annually. This total of \$650 million is far lower than the investor presentation estimate of \$1.05 billion and may reflect adjustments to claimed efficiencies resulting from antitrust review. See U.S. Department of Justice, et al. v. U.S. Airways Group, Inc., et al., *Defendant US Airways Group, Inc.'s Answer to Amended Complaint*, at 2, Case No. 1:13-cv-01236-CKK (D.D.C. September 5, 2013).

savings proposed are of a fixed cost nature (e.g., reductions in overhead, management, etc.), not marginal cost reductions. In the Delta-Northwest merger, the DOJ dismissed many of the carriers' cost efficiency claims, noting that they were asserted, as opposed to verified, and that integration costs posed a substantial offset.¹⁶ Indeed, one expert recently summed up the growing consensus that airline mergers do not prove up the cost-savings: *"It is pretty difficult looking at the U.S. airline industry (to believe) that mergers are actually going to lower costs. There is no evidence that they deliver more cost-efficiency."*¹⁷

Consumer (network) benefits are those efficiencies projected to accrue from post-merger capacity management and enhanced connectivity for consumers. They can arise from a number of sources: adding destinations to the network, offering more round-trip options on existing routes, converting interline service into single line service, optimizing the combined fleet of aircraft across a larger hub-and-spoke network, and scheduling improvements. Airlines also claim that network efficiencies can accrue from reducing service in marginally profitable and unprofitable markets and from eliminating inefficient patterns (e.g., point-to-point routes) that do not fit within the hub-and-spoke network model. These synergies will in theory generate additional value for consumers, although not for consumers whose service is reduced or eliminated.

US Airways-American emphasized projected network efficiencies in their Answers to the DOJ Complaint. American, for example, explained: *"New American would generate enormous direct consumer benefit, most significantly by creating a unified network affording a vastly expanded array of flight options for travelers — taking more passengers where they want to go when they want to go there."*¹⁸ US Airways stated: *"Thousands of new routes will be created simply by combining the two airlines...the combined network will offer passengers more opportunities to fly where they want to go, when they want to go, and how they want to go."*¹⁹

Network efficiencies are typically estimated by comparing predicted demand for the merged carriers' services under post-merger schedules with demand for services assuming the carriers remained standalone. This approach is different than simply adding up pre-merger schedules, which does not reflect true integration of the carriers and will overlook reductions in capacity as the airlines re-optimize their systems after the merger.²⁰ Consumer benefits can be difficult to estimate even in the most stable of times. This task is more challenging during a period of intensive industry consolidation, with changing competitive dynamics, fare increases, and service cutbacks resulting from

¹⁶ Ken Heyer, Carl Shapiro, and Jeffrey Wilder, *The Year in Review: Economics at the Antitrust Division, 2008–2009*, 35 REVIEW OF INDUSTRIAL ORGANIZATION 349 (2009).

¹⁷ Kristen Leigh Painter, *United Airlines is one big company, but not yet one happy family*, DENVERPOST.COM, September 8, 2013, http://www.denverpost.com/business/ci_24036565/united-airlines-is-one-big-company-but-not.

¹⁸ *AMR Corporation's Answer*, *supra* note 3, at 2.

¹⁹ *US Airways Group, Inc.'s Answer*, *supra* note 15, at 4.

²⁰ The Amended Complaint looked askance at US Airways-American's approach in this regard, noting that "...the defendants will likely claim that the elimination of American as a standalone competitor will benefit consumers. They will argue that...existing capacity levels and growth plans will be maintained, and unspecified or unverified "synergies" will materialize..." See *Amended Complaint*, *supra* note 2, at 6-7.

previous mergers.

It is important to note that even in the face of growing controversy and skepticism over network efficiencies, they appear to account for a growing proportion of total efficiencies claimed in merger proposals. For example, in US Airways-America West, network synergies were projected to be 50-60 percent of total projected efficiencies and cost efficiencies were 40-50 percent (Table 1). In Delta-Northwest, network benefits were about 70 percent of the total and cost efficiencies 30 percent. In United-Continental, network synergies were 75-80 percent of total efficiencies, while cost efficiencies comprised 20-25 percent. Finally, network efficiencies in US Airways-American range from about 80-85 percent of the total, while cost efficiencies account for about 15-25 percent.

What accounts for the shift in balance toward network efficiencies? One possibility is that in more recent mergers, carriers were already realizing high levels of operational efficiency as standalone companies such that the merger would do little to extract additional cost savings. Another possible explanation is the tightening of the efficiencies standards in the 2010 GUIDELINES. Merging parties have incentives to apply efficiencies in the direction that most favors antitrust approval. Network efficiencies are inherently harder for the DOJ to verify than cost synergies, but without a good case for why the former are not cognizable under the GUIDELINES standards, the government has less leverage to reject them. Merging parties can capitalize on this weakness by loading efficiencies onto the network benefits side of the ledger, putting them in a better position to argue that even if there are likely adverse competitive effects, the merger is on the whole procompetitive.

IV. Backlash from Previous Mergers – the Problem of Costly Integrations

Integration costs range from big ticket items like integrating information technology platforms, reconciling pay scales, standardizing aircraft interiors and cockpits, changing livery, to obtaining a single operating certificate. Most system integration timeframes are three years, at which point cost and network synergies are typically forecast to begin accruing in full. But evidence from previous mergers demonstrates that integration of some airlines is difficult, expensive, and protracted. Frequently encountered problems include integrating computer systems, combining frequent flier programs, meshing work forces (particularly unionized employees), and standardizing cockpits.

There are prominent examples of the integration difficulties experienced in past mergers. For example, US Airways explained in 2006: *“The integration of US Airways Group and America West Holdings has been and will continue to be costly, complex and time consuming, and management will continue to devote substantial effort to that integration and may have its attention diverted from ongoing operational matters or other strategic opportunities.”*²¹ Eight years after their merger in 2005, US Airways and America West are in court over a single pilot seniority list.²² United-Continental is also struggling with

²¹ U.S. Airways Group, Inc. *Form 10-K* (2006), at 19.

²² Terry Maxon, *American Airlines-US Airways Merger: Questions and Answers*, DALLASNEWS.COM, April

system integration beyond the three-year limit promised by the airlines at the time of their merger. So extensive is the rash of integration problems experienced in some past mergers – and the public backlash that has accompanied them – that it is illustrative to list some relevant headlines here.²³

One to two years from merger announcement:

- ***No Smooth Takeoff for US Airways IT Conversion: Integration of reservation systems with America West blamed for delays*** - COMPUTERWORLD.COM (April 2, 2007)²⁴
- ***United Airlines Faces Delays After Systems Merger: IT difficulties cause kiosk malfunction, traveler setbacks*** - INVESTORPLACE.COM (March 5, 2012)²⁵
- ***United-Continental Web Meltdown: Why Can't Airlines Get It Right?*** - THEDAILYBEAST.COM (March 9, 2012)²⁶
- ***United-Continental airlines merger hits turbulence*** - SAN JOSE MERCURY NEWS (March 14, 2012)²⁷
- ***United We Fall: The Merger Between Continental and United Off to a Shaky Start*** - HUFFINGTONPOST.COM (March 29, 2012)²⁸
- ***Massive Integration Issues Continue to Affect United*** - PREMEIRTRAVELSERVICES.COM (April 13, 2012)²⁹
- ***Southwest–AirTran Merger: Tech Troubles Are Going to Make It Tough*** - CNTRAVELER.COM (April 19, 2012)³⁰

20, 2012, <http://aviationblog.dallasnews.com/2012/04/american-airlines-us-airways-m.html>. See also *America West pilots ask federal court to force US Airways to implement Nicolau seniority list*, STAR-TELEGRAM.COM, March 8, 2013, http://blogs.star-telegram.com/sky_talk/2013/03/america-west-pilots-ask-federal-court-to-force-us-airways-to-implement-nicolau-seniority-list.html. The class-action suit was filed by former America West pilots to prevent US Airways and the U.S. Airline Pilots Association from taking action to “integrat[e] pilot operations without using a seniority list set out in a previous arbitration.”

²³ Delta-Northwest does not appear prominently in past headlines regarding airline merger integration.

²⁴ Linda Rosencrance, *No Smooth Takeoff for US Airways IT Conversion: Integration of reservation systems with America West blamed for delays*, COMPUTERWORLD.COM, April 2, 2007, http://www.computerworld.com/s/article/287874/No_Smooth_Takeoff_for_US_Airways_IT_Conversion.

²⁵ *United Airlines Faces Delays After Systems Merger: IT difficulties cause kiosk malfunction, traveler setbacks*, INVESTORPLACE.COM, March 5, 2012, <http://www.investorplace.com/2012/03/united-airlines-faces-delays-after-systems-merger/>.

²⁶ Barbara S. Peterson, *United-Continental Web Meltdown: Why Can't Airlines Get It Right?* THEDAILYBEAST.COM, March 9, 2012, <http://www.thedailybeast.com/articles/2012/03/09/united-continental-web-meltdown-why-can-t-airlines-get-it-right.html>.

²⁷ John Boudreau, *United-Continental airlines merger hits turbulence*, STARTRIBUNE.COM, March 14, 2012, <http://www.startribune.com/business/142713695.html>.

²⁸ David Fagin, *United We Fall: The Merger Between Continental And United Off To A Shaky Start*, HUFFINGTONPOST.COM, March 29, 2012, http://www.huffingtonpost.com/david-fagin/united-and-continental-airline-merger_b_1379046.html.

²⁹ *Massive Integration Issues Continue to Affect United*, PREMEIRTRAVELSERVICES.COM, April 13, 2012, <http://premieretravelservices.blogspot.com/2012/04/massive-integration-issues-continue-to.html>.

³⁰ *Southwest–AirTran Merger: Tech Troubles Are Going to Make It Tough*. CNTRAVELER.COM, April 19, 2012, <http://www.cntraveler.com/daily-traveler/2012/04/southwest-airtran-merger-codeshare-about-to-get-tough-041912>.

- ***United: Systems integration still causing some delays, problems*** - EXECUTIVETRAVELMAGAZINE.COM (April 27, 2012)³¹

Two to three years from merger announcement:

- ***In-Depth on United's Merger Woes, Computer Mess and Angry Customers*** - WSJ.COM (May 24, 2012)³²
- ***Smisek Apologizes For United's Technological, Operational Missteps*** - THEBEAT.TRAVEL (July 26, 2012)³³
- ***'Messy' integration process hurts profits at United Airlines*** – USATODAY.COM (July 26, 2012)³⁴
- ***For United, Big Problems at Biggest Airline*** - NYTIMES.COM (November 28, 2012)³⁵
- ***United's Note to US Airways: Mergers Can Be Ugly*** - THESTREET.COM (January 25, 2013)³⁶
- ***Southwest, AirTran Fly Into Merger Problems*** - WALL STREET JOURNAL (July 18, 2013)³⁷
- ***Slow pace of Southwest-AirTran merger frustrates fliers*** - USATODAY (July 19, 2013)³⁸

Three to four years from merger announcement:

- ***Delta-Northwest Merger's Long and Complex Path*** - NYTIMES.COM (May 18, 2011)³⁹
- ***Airline Mega-Mergers: 'Good, Bad And Ugly'*** - NPR (February 14, 2013)⁴⁰

³¹ Jim Glab, *United: Systems integration still causing some delays, problems*, EXECUTIVETRAVELMAGAZINE.COM, April 27, 2012, <http://www.executivetravelmagazine.com/blogs/air-travel-news/2012/4/27/united-systems-integration-still-causing-somedelays-problems>.

³² Scott McCartney, *In-Depth on United's Merger Woes, Computer Mess and Angry Customers*, WSJ.COM, May 24, 2012, <http://blogs.wsj.com/middleseat/2012/05/24/in-depth-on-uniteds-merger-woes-computer-mess-and-angry-customers/>.

³³ *Smisek Apologizes For United's Technological, Operational Missteps*, THEBEAT.TRAVEL, July 26, 2012, <http://www.thebeat.travel/post/2012/07/26/Smisek-Apologizes-United-Missteps.aspx>.

³⁴ Ben Mutzabaugh, *'Messy' integration process hurts profits at United Airlines*, USATODAY.COM, July 26, 2012, <http://travel.usatoday.com/flights/post/2012/07/united-continental-earnings/812621/1>.

³⁵ Jad Mouawad, *For United, Big Problems at Biggest Airline*, NYTIMES.COM, November 28, 2012, http://www.nytimes.com/2012/11/29/business/united-is-struggling-two-years-after-its-merger-with-continental.html?_r=0.

³⁶ Ted Reed, *United's Note to US Airways: Mergers Can Be Ugly*, THESTREET.COM, January 25, 2013, <http://www.cnbc.com/id/100407978>.

³⁷ Scott McCartney, *Southwest, AirTran Fly Into Merger Problems*, WALL STREET JOURNAL, July 18, 2013, <http://blogs.wsj.com/middleseat/2013/07/18/southwest-airtran-fly-into-merger-problems/>.

³⁸ Ben Mutzabaugh, *Slow pace of Southwest-AirTran merger frustrates fliers*, USATODAY, July 19, 2013, <http://www.usatoday.com/story/todayinthesky/2013/07/19/slow-pace-of-southwest-airtran-merger-frustrates-fliers/2568361/>.

³⁹ Jad Mouawad, *Delta-Northwest Merger's Long and Complex Path*, NYTIMES.COM, May 18, 2011, <http://www.nytimes.com/2011/05/19/business/19air.html?pagewanted=all>.

⁴⁰ Wendy Kaufman, *Airline Mega-Mergers: 'Good, Bad And Ugly'*, NPR, February 14, 2013, <http://www.npr.org/2013/02/14/172018757/airline-mega-mergers-good-bad-and-ugly>.

- *America West pilots ask federal court to force US Airways to implement Nicolau seniority list*, STAR-TELEGRAM.COM (March, 8, 2013)⁴¹
- *Truly united?* - ECONOMIST.COM (September 9, 2013)⁴²
- *United Airlines is one big company, but not yet one happy family* - DENVERPOST.COM (September 8, 2013)⁴³

In light of these problems, it is instructive to compare predicted integration costs with actual integration costs. Table 2 shows that in the case of Delta-Northwest, predicted integration costs were \$500 million but actual costs came in at about \$1.5 billion, or about 200 percent higher than predicted.⁴⁴ United Continental estimated integration costs to be \$1.2 billion but actual costs currently stand at about \$1.62 billion.⁴⁵ Those costs are currently 33 percent higher than predicted and will probably rise since the integration of the two networks is not yet complete.

While data for predicted integration costs are not available for US Airways-America West, it is likely that actual integration costs are higher. The airline was still incurring integration-related expenses through 2008, almost 40 months after the merger closed.⁴⁶ Moreover, ongoing litigation expenses associated with workforce integration should count toward merger integration costs. The cost of integrating the Southwest and AirTran systems was estimated at \$500 million at the time the merger was proposed. Actual acquisition and integration-related costs as of third quarter 2013 totaled \$391 million, 22 percent lower than estimated costs.⁴⁷ However, integration of the two systems is not yet complete and these costs could well increase.

It is clear from Table 2 that some airlines – hub-and-spoke carriers in particular – vastly underestimated system integration costs in past mergers. Had integration costs been accurately estimated at the time past mergers were proposed, predicted efficiencies would have been reduced in magnitude and any associated effects on fare reductions also lowered accordingly.⁴⁸ Expensive system integrations also increase consumer transactions and search costs, such as those associated with inconvenience, incompatibility problems, and changes in frequent flyer benefits.

⁴¹ *America West pilots ask federal court to force US Airways to implement Nicolau seniority list*, *supra* note 22.

⁴² *Truly united?*, ECONOMIST.COM, September 9, 2013, <http://www.economist.com/blogs/gulliver/2013/09/united-continental-merger>.

⁴³ Painter, *supra* note 17.

⁴⁴ *Delta and Northwest Merge*, *supra* note 12. See also Delta Airlines, *Form 10-K* (2009), at 2; Delta Airlines, *Form 10-K* (2010), at 107; Delta Airlines, *Form 10-K* (2012), at 92.

⁴⁵ *Let's Fly Together*, *supra* note 14, at 20. See also United Continental Holdings, *Form 10-K* (2010), at 164; United Continental Holdings, *Form 10-K* (2011), at 151, United Continental Holdings, *Form 10-K* (2012), at 146, United Continental Holdings, *Form 10-Q* (3rd quarter 2013), at 40.

⁴⁶ US Airways *Form 10-K* (2010), at 89.

⁴⁷ Southwest Airlines *Form 10-K* (2010), at 40; Southwest Airlines *Form 10-K* (2012), at 53 and 87; and Southwest Airlines *Form 10-Q* (2013 – 3Q), at 4. See also *Southwest Airlines to Acquire AirTran; Spreading Low Fare Farther*, SOUTHWEST.INVESTORROOM.COM, September 27, 2010, <http://southwest.investorroom.com/index.php?s=43&item=336>.

⁴⁸ Claimed efficiencies (in net present value terms) should also have been lower at the time of merger review because future cost savings should be discounted more heavily.

Table 2: Predicted Integration Costs v. Actual Integration Costs in Past Airline Mergers

Merger	Predicted Integration Costs	Actual Integration Costs	Predicted v. Actual Integration Costs	Time Period for Incurring Integration Costs
Delta-Northwest (2008)	<ul style="list-style-type: none"> • \$500M (originally estimated at \$1B) 	<ul style="list-style-type: none"> • \$1.5B* • Breakdown: \$978M (2008) \$275M (2009) \$233M (2010) 	<ul style="list-style-type: none"> • ~ 200% higher than predicted 	<ul style="list-style-type: none"> • 2008 - 2010
United-Continental (2010)	<ul style="list-style-type: none"> • \$1.2B 	<ul style="list-style-type: none"> • \$1.6B** • Breakdown: \$190M (2010) \$517M (2011) \$739M (2012) \$165M (2013 through 3Q) 	<ul style="list-style-type: none"> • ~ 33% higher than predicted • Integration likely not complete – actual costs could be higher 	<ul style="list-style-type: none"> • 2010 - ongoing
Southwest-AirTran (2010)	<ul style="list-style-type: none"> • \$500M 	<ul style="list-style-type: none"> • \$391M • Breakdown: \$8M (2010) \$134 (2011) \$183 (2012) \$66 (2013 through 3Q) 	<ul style="list-style-type: none"> • ~ 22% lower than predicted • Integration likely not complete – actual costs could be higher 	<ul style="list-style-type: none"> • 2010 - ongoing
US Airways-American (2013)	<ul style="list-style-type: none"> • \$1.2B 	N/A	N/A	N/A

“N/A” = not available
* Reported in financials as “merger-related items,” which are defined to be integration costs.
** Reported in financials as “integration-related” costs.
*** Reported in financials as “acquisition and integration-related costs,” which may include non-integration-related costs.

V. Elusive Network Benefits and the “Out-Of-Market” Efficiencies Defense

The essence of network efficiencies is captured in simple terms by US Airways in explaining their proposed merger with American: *“In short, the combined network will offer passengers more opportunities to fly where they want to go, when they want to go, and how they want to go.”*⁴⁹ By combining networks, airlines are in theory able to drive traffic to large hubs and offer enhanced service by serving more destinations, increasing flight frequency, and offering more nonstop service. Many of the network benefits claimed in airline mergers will – by virtue of the nature of a hub-and-spoke network – be realized outside the markets that are likely to see adverse competitive effects. Thus, while

⁴⁹ *US Airways Answer*, *supra* note 15, at 4.

some consumers on the network may be harmed by higher fares and service cutbacks, other consumers may benefit from network synergies.

The GUIDELINES hold “out-of-network” efficiencies claims to a high standard. Namely, the GUIDELINES ask whether such efficiencies are “inextricably linked” with the relevant market(s) where anticompetitive harm could result.⁵⁰ This concept is operationalized by asking if a remedy can be crafted to address competitive harm in a market without sacrificing efficiencies elsewhere. If so, then a narrowly tailored remedy is often considered. For example, if a merger of two carriers were likely to substantially lessen competition on a hub-to-hub route, one remedy could be to require divestitures of slots or gates at those airports. If those divestitures would not undermine the ability of the carriers to achieve efficiencies on other routes utilizing those airports, then the efficiencies are not linked to those markets. If out-of-market efficiencies are linked to the relevant markets where harm could result, however, the agencies may decide not to challenge the merger.

Out-of-market efficiencies pose particularly sticky issues for airlines. For example, any out-of-market efficiencies would have to be exceedingly large for antitrust enforcers to decline remedying competitive problems in affected relevant markets. Indeed, the GUIDELINES state that inextricably linked efficiencies are likely to make a difference when they are great and anticompetitive effects in a market are small, so that the merger will benefit consumers overall.⁵¹ This is not the case in US Airways-American, where the potential for competitive and consumer harm spanned more than 1,000 markets. Moreover, evidence presented in this paper shows that airline efficiencies claims are often overblown, creating a scenario where the benefits to be distributed through the remainder of the airline network are small.

To further complicate matters, airlines are noncommittal and nonspecific when it comes to network efficiencies. The following exchange between Southwest Airline’s CEO Gary Kelly and Senator Kohl at the 2011 Senate Judiciary Committee hearing on Southwest-AirTran illustrates the reluctance of carriers to make commitments:

Chairman Kohl. Would you at this time commit to maintaining AirTran's service and its growth plans at Mitchell Airport after this merger takes place?

Mr. Kelly. Mr. Chairman, we are very enthused about Milwaukee. We are very enthused about continuing to grow Southwest Airlines...I just cannot guarantee that we will have the fiscal ability to do that...⁵²

It is also clear that merging carriers will not make promises to maintain service post-merger unless forced to in order to gain a government’s support for the deal. This was the

⁵⁰ U.S. Department of Justice and Federal Trade Commission, COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES (march 2006), at 56-57. Available at <http://www.justice.gov/atr/public/guidelines/215247.pdf>.

⁵¹ GUIDELINES, *supra* note 6.

⁵² *The Southwest/AirTran Merger and its Impact On M-7 Businesses, Consumers, and the Local Economy*, Hearing Before the Subcommittee On Antitrust, Competition Policy And Consumer Rights of the Committee on the Judiciary, United States Senate, 112th Congress (February 25, 2011).

case in the United-Continental merger where the state of Ohio obtained commitments from the airline to maintain service at Cleveland. It is also true for Texas and possibly other states in the US Airways-American merger. Merging carriers' unwillingness to commit to network benefits is particularly telling. Post-merger flexibility is highly valuable to a merged airline, even if it means backing off on promises to deliver the efficiencies that were instrumental in obtaining antitrust clearance. Confronted with estimates of vast but hard-to-verify network benefits, there is arguably a higher probability that the DOJ will accept – as opposed to reject – such claims.

VI. Measuring Disconnectivity from Previous Mergers

Despite the airlines' "no promises" approach to following through on predicted network efficiencies, little effort has been made to ascertain whether such benefits actually materialized. This is surprising for a number of reasons. First, the GUIDELINES' emphasis on direct evidence from previous mergers or analogous situations applies not only to anticompetitive effects such as fare and ancillary fee increases, but also to efficiencies.

Second, service cutbacks and the takedown of airline hubs in the wake of previous mergers are significant. Indeed, from 2007 to 2012, hub-and-spoke carriers reduced scheduled flights by about 16 percent.⁵³ Cutbacks at medium size hubs are as high as 22 and 26 percent.⁵⁴ Hub-and-spoke carriers account for the bulk of cutbacks, with American, United, US Airways, and Delta reducing service by 14 to 18 percent over the same time period.⁵⁵ Some high profile examples of hub cutbacks include Delta's Cincinnati hub where scheduled departures declined by 63 percent over the period, Continental's Cleveland hub (26 percent decrease), Northwest's Memphis hub (35 percent decrease), US Airway's Pittsburgh hub (40 percent decrease), and American's St. Louis hub (25 percent decrease).⁵⁶

Service cutbacks and hub takedowns raise both competitive and efficiencies issues. For example, in markets at risk of anticompetitive effects, such capacity cutbacks can have the predicted effect of raising fares. But cutbacks also count on the efficiencies side of the ledger. Network benefits that are not implemented as promised and reductions in post-merger connectivity reduce benefits for consumers. While disaggregating these effects is not within the scope of this paper, it is useful nonetheless to examine this phenomenon; and the aftermath of previous transactions provides valuable insight into how merged airlines have enhanced or degraded post-merger connectivity.

One important facet of connectivity is the change in number of airport-pairs for which

⁵³ U.S. Department Of Transportation, Aviation Industry Performance, *A Review of the Aviation Industry, 2008–2011 (DOT Report) (#CC-2012-029)* (September 24, 2012), Appendix, Figure 23.

⁵⁴ See, e.g., Michael D. Wittman And William S. Swelbar, *Evolving Trends Of U.S. Domestic Airfares: The Impacts Of Competition, Consolidation, And Low-Cost Carriers* (Report No. Icat-2013-07), MIT International Center For Air Transportation (August 2013), at 8. Available at <http://Dspace.Mit.Edu/Bitstream/Handle/1721.1/79878/Icat-2013-07.Pdf?Sequence=1>. See also *DOT Report, supra* note 53, Appendix, Figure 30.

⁵⁵ Alaska and AirTran also cut back service during this period but the remaining regional and low-cost carriers all added service. See *DOT Report, supra* note 53, at Appendix, Figure 23.

⁵⁶ *Id.*, at 12.

service was offered before and after past mergers. This approach captures – in the words of US Airways – the “where they [passengers] want to go” aspect of network benefits. Delta-Northwest, United-Continental, and Southwest-AirTran are case studies for comparing airport-pairs serviced pre- and post-merger.⁵⁷ The analysis considers those domestic airport-pairs with the carriers’ primary hubs as the origin. Destinations, however, range across all airports. This approach thus combines elements of both service cutbacks and hub reductions.⁵⁸ The data set includes almost 230 U.S. destination airports for Delta-Northwest, about 170 destination airports for United-Continental, and almost 150 destination airports for Southwest-AirTran. When each hub is paired with a destination, total airport-pairs served by each carrier number in the hundreds.

The upper part of Table 3 shows pre- to post-merger changes associated with all destination airports. Thus, from 2007-2012, Delta-Northwest lost 75 airport-pairs, United-Continental lost 50 airport-pairs, and Southwest-AirTran lost 176 airport-pairs. These cuts reflect about 11, nine, and 22 percent of the airport-pairs served before the mergers of Delta-Northwest, United-Continental, and Southwest-AirTran, respectively.

Table 3: Changes in “Connectivity” in Past Airline Mergers

Measure	Delta-Northwest (2007-2012)	United-Continental (2009-2012)	Southwest-AirTran (2009-2012)
All destination airports:			
Total change in airport-pairs	-75	-50	-176
Percentage of total per-merger airport-pairs	10%	9%	22%
Only added or cut destination airports:			
Airports added (+) or cut (-)	2	-19	-26
Airport-pairs added (+) or cut (-)	6	-33	-27

The lower part of Table 3 shows changes associated only with those airports that were added or cut from the networks pre- to post-merger. Between 2007-2012, Delta-Northwest added service from their hubs to 26 destination airports involving 40 airport pairs but cut service to 24 airports involving 34 airport-pairs, thus producing a net gain of two airports and only six additional airport-pairs. Between 2009-2012, United-Continental produced a net loss of 19 destination airports and 33 airport-pairs. Between 2010-2012, Southwest-AirTran produced a net loss of 26 destination airports and 27 airport-pairs.

The foregoing analysis supports the concern that some aspects of enhanced connectivity

⁵⁷ Flight availability is measured by available seats. 2012 is used as the post-merger year in all cases. This captures cumulative effects of merger activity over the period.

⁵⁸ Data derived from queries to the *T-100 Domestic Segment (U.S. carriers)* database, Bureau of Transportation Statistics. Available at http://www.transtats.bts.gov/DL_SelectFields.asp?Table_ID=259&DB_Short_Name=Air%20Carriers. Delta-Northwest, hubs include: Minneapolis (MSP), Atlanta (ATL), LaGuardia (LGA), Memphis (MEM), Detroit (DTW), Cincinnati (CVG), Salt Lake City (SLC). For United-Continental, hubs are: San Francisco (SFO), Los Angeles (LAX), Denver (DEN), Houston (IAH), Chicago O’Hare (ORD), Cleveland (CLE), Dulles (IAD), and Newark (EWR).

have failed to materialize in past mergers.⁵⁹ There are two possible rebuttals to this argument. One is that some of the additional destinations promised in previous mergers were international. This may well be the case, in light of the fact that a major motivation for domestic airline mergers is to drive traffic to large hubs in order to compete globally. However, reducing connectivity domestically harms the American consumer, which should be a focus of antitrust review in the U.S. A second rebuttal is that there are other types of connectivity enhancements (e.g., increased flight frequency or enhanced nonstop service) that – if shown to exist – might be more valuable than adding destinations to a merged airline. This is a questionable argument. Of all the connectivity problems cited in the wake of previous mergers, the adverse effects of reduced or terminated service at origin and destination airports have garnered the most attention.

VII. Merger-Induced Inefficiency? Merger-Induced Congestion and Delays

Economists have engaged in an ongoing debate over the relationship between increased network size and effects such as diseconomies of scale and density, and congestion externalities.⁶⁰ Larger post-merger networks with more intensive hubbing may increase benefits, but also create congestion and delay, both for the merging airlines and for rivals utilizing the same hubs.⁶¹ These spillover effects can be negative externalities associated with an airline merger if they are not reflected in the merging carriers' private costs of providing passenger service. While there are incentives for a carrier to internalize congestion costs as it becomes more dominant at an airport, this effect is potentially dependent on market structure.⁶² Moreover, some costs are not internalized. Even if a larger merged carrier internalizes all increased congestion costs, external shocks such as weather delays or labor issues that are outside its control may be more likely to create ripple effects through the system, increasing the risk of systemic failure.

⁵⁹ DOT finds that cutbacks in scheduled flights from 2007 to 2012 are the most severe for short-haul routes, which are more likely to involve smaller destinations radiating from a hub airport. See *DOT Report, supra* note 53, at Appendix, Figure 26.

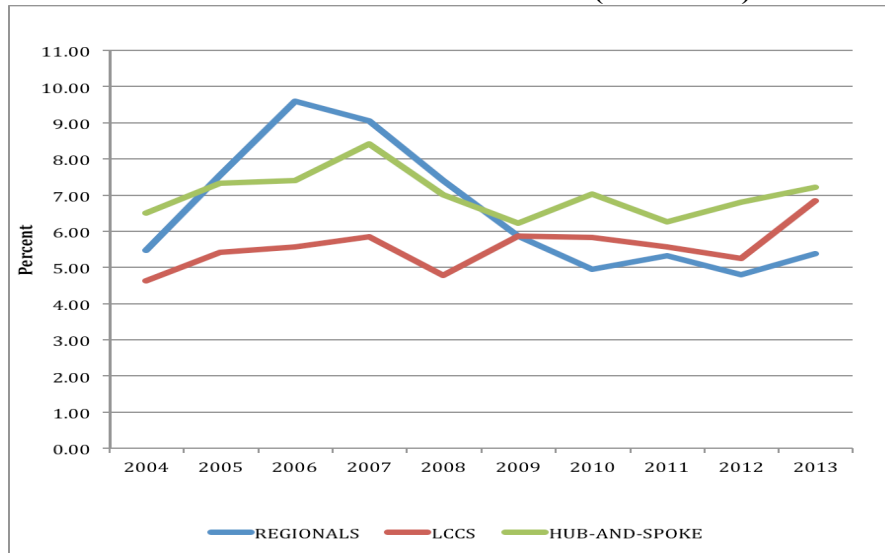
⁶⁰ See, e.g., David Gillen, et al., *Airlines Cost Structure and Policy Implications*, 24 J. TRANSP. ECON. AND POL'Y 9 (1990); Michael Creel and Montserrat Farell, *Economies of Scale in the US Airline Industry After Deregulation: a Fourier Series Approximation*, 37 TRANSP. RES. PART E 321, 332 (2001); W. M. Swan, *Airline Route Developments: A Review of History*, 8 J. AIR TRANSP. MGMT. 349 (2002). See also Subal C. Kumbhakar, *A Reexamination of Returns to Scale, Density and Technical Progress in U.S. Airlines*, 57 S. ECON. J. 428, 439 (1990); Leonardo J. Basso and Sergio R. Jara-Diaz, *Distinguishing Multiproduct Economies of Scale from Economies of Density on a Fixed-Size Transport Network*, 6 NETWORK & SPATIAL ECON. 149 (2006); E. Han Kim and Vijay Singal, *Mergers and Market Power: Evidence from the Airline Industry*, 83 AM. ECON. REV. 549 (1993); Christopher Mayer Todd Sinai, *Network Effects, Congestion Externalities, and Air Traffic Delays: or Why all Delays are Not Evil* (NBER Working Paper 8701 (January 2002). Available at <http://www.nber.org/papers/w8701>); and Atef Ghoibrial and Ken Fleming, *An Assessment of the Impacts of Congestion Delay at Major Hubs to Airlines and Passengers*, 2 JOURNAL OF AVIATION/AEROSPACE EDUCATION & RESEARCH (1992).

⁶¹ From an economic standpoint, some degree of equilibrium congestion is "optimal." With a merger, hubbing is likely to increase and therefore the equilibrium value of congestion also rises.

⁶² See, e.g., Jan K. Brueckner, *Airport Congestion When Carriers Have Market Power*, 92 AMERICAN ECONOMIC REVIEW 1357 (2002). See also, Christopher Mayer and Todd Sinai, *Network effects, congestion externalities, and air traffic delays: Or why all delays are not evil*. 93 AMERICAN ECONOMIC REVIEW 1194 (2003) and Nicholas G. Rupp, *Do carriers internalize congestion costs? Empirical evidence on the internalization question*, 65 JOURNAL OF URBAN ECONOMICS 24 (2009).

Flight delays due to carrier-caused factors are a starting point for evaluating inefficiencies potentially created by past airline mergers. Ideally an analysis would evaluate delay patterns due to carrier-caused problems at the hub airports most affected by previous mergers. Since such data is not available on both a carrier- and airport-specific basis, the next best option is carrier-caused delays, by type of carrier. Data for this metric are available over the period 2004-2013, for which results are shown in Figure 1.

Figure 1: Air Carrier Delays as Percent of Total Flights for Different Classes of Airlines (2004-2013)



The highest level of average carrier-caused delays over the period is associated with hub-and-spoke airlines.⁶³ Regional airlines such as Mesa, Hawaiian, and Alaska come in second, followed by low-cost carriers (LCCs) such as JetBlue and Frontier, with the lowest average level of carrier-caused delays.⁶⁴ Changes in delays over the period reveal a different pattern. Delays for LCCs increase by about 47 percent, while those for hub-and-spoke airlines increase by 11 percent. Carrier-caused delays for regional airlines, however, fall by about two percent over the period.

There appear to be three observable periods within the 2004-2013 timeframe, as summarized in Table 4. From 2004 to 2007, all types of carriers exhibit large increases in delays, with regional delays rising by a substantial 65 percent. This trend reverses between 2007 and 2009, with declines in delays. For example, regional carrier delays decrease by 35 percent and hub-and-spoke delays decrease by 26 percent. From 2009 to 2013, however, the trend reverses again, with increases in delays of about 16 percent for both LCCs and hub-and-spoke carriers.

⁶³ Data derived from the *Air Travel Consumer Report*, U.S. Department of Transportation, Office of Aviation Enforcement and Proceedings, Table 9: Causes of Delay, by Carrier, September 2004-2013. Available at <http://www.dot.gov/airconsumer/air-travel-consumer-report-archive>.

⁶⁴ Southwest is included in the LCC group from 2004-2008 and the hub-and-spoke group from 2009-2013, based on changes in the airline's pricing and capacity decisions.

Table 4: Changes in Carrier-Caused Delays by Type of Airline (2004-2013)

Type of Carrier	Time Period			
	2004-2007	2007-2009	2009-2013	2004-2013
	(percent)			
Regionals	65.3	-35.2	-8.3	-1.7
Low Cost Carriers	26.3	0.3	16.4	47.4
Hub-and-Spoke	29.2	-26.0	15.7	10.7

There are a number of notable trends in carrier-caused delays over the period 2004-2013. First, hub-and-spoke delays have risen, on average, in the wake of large airline mergers since 2009. Second, delays for LCCs increased substantially. LCC delays rise sharply in 2008 and again in 2012 and are now close to the level for hub-and-spoke carriers. LCC statistics may be explained by congestion externalities associated with large mergers in the mid to late 2000s. Other explanations could include incentives for large airlines to create delays for smaller rivals. It may also be possible that LCCs are bracketing flights by hub-and-spoke carriers and scheduling in the face of congestion (rather than avoiding peak times) to compete with hub-and-spoke carriers. Finally, the substantial decline in regional carrier delays between 2006 and 2010 is striking. They are now at the lowest of all carrier types and have remained relatively stable since 2010.

Determining whether increasing delays are a function of congestion resulting from more intensive merger-induced hubbing requires more sophisticated additional economic modeling and estimation.⁶⁵ The patterns apparent in Figure 1 are significant enough, however, to suggest that such further analysis is important and that a strong case can potentially be made for estimating and accounting for merger-induced inefficiencies in the antitrust review process.

VIII. Conclusions and a Note on Efficiencies and the US Airways-American Settlement

Consolidation in the domestic commercial airline industry over the last decade has created a strong impetus to examine how mergers affect competition and consumers. While much attention has been devoted to post-merger assessments of fare and fee hikes, there is less focus on whether the cost efficiencies and network benefits predicted by carriers at the time they proposed their mergers have actually materialized. Correcting this imbalance in “post-mortem” analysis is important since efficiencies can factor prominently into a finding by antitrust enforcers that a merger is likely (or not likely) to substantially lessen competition. The foregoing analysis demonstrates many of the potential perils and pitfalls associated with projected merger efficiencies. These range from expensive, protracted integrations, disconnectivity associated with post-merger service cutbacks, to the possibility of merger-induced congestion.

Efficiencies analysis has been dealt a poor hand by the government’s settlement in the US

⁶⁵ Such an analysis would account for changes in layover times and aircraft types from the pre- to post-merger periods that might have been implemented by airlines to schedule around any merger-induced congestion.

Airways-American merger. A settlement pre-empted a hearing on the merits, at which the carriers' efficiencies claims would have been vetted. Moreover, the limited structural relief contained in the settlement is unlikely to restore the competition lost through the merger. If anticompetitive fare increases and service cutbacks result from a US Airways-American merger – as they have in analogous past mergers of hub-and-spoke carriers – the focus on whether the carriers deliver the promised cost savings and network benefits will intensify. If the poor record on efficiencies claims in past mergers is any indicator of what will, or will not, materialize in the aftermath of US Airways-American, then the traveling public is at significant risk. The implications of these observations are fundamental to airline merger analysis moving forward and suggest a number of broad-based recommendations:

- ***Efficiencies claims in airlines mergers should be viewed with extreme skepticism. Evidence from previous mergers makes a strong case for the DOJ and the courts to project substantially higher system integration costs and substantially discount projected efficiencies at the time of merger review, or in permanent injunction hearings.***
- ***The probability of merger-induced inefficiencies should be considered in the analysis of mergers that create large hub-and-spoke networks. Claimed efficiencies should not be deemed “cognizable” unless the merging parties can demonstrate that increased hubbing would not result in increased congestion, delays, and consumer harm. Whether in-market or out-of-market efficiencies are under consideration, this ‘net efficiencies’ approach will recognize both the benefits and costs created by mergers.***
- ***The DOJ should implement a post-merger “monitoring and reporting” system under which merged airlines provide periodic reports to an independent third party on their progression toward realizing claimed efficiencies.***
- ***An in-depth study on airline efficiencies by the Department of Transportation and/or the Government Accountability Office would advance the knowledge base on airline merger efficiencies.***