

An Evaluation of Developments in the Airline Industry since 2000

by

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Much has happened in the airline industry in the 25 years since the turn of the century. Many carriers have disappeared as a result of a series of mergers: American-TWA in 2001, US Airways-America West in 2005, Delta-Northwest in 2008, United-Continental in 2010, Southwest-AirTran in 2011, American-US Airways in 2013, Alaska-Virgin America in 2016. Although the JetBlue-Spirit merger and the American-JetBlue Northeast Alliance were blocked, the consolidation trend has continued with recent approval of the Alaska-Hawaiian merger. These mergers have left four big carriers, American, Delta, United, and Southwest, controlling around 80% of US domestic traffic.

Another development has been the unbundling of airline services, with fees for checked bags being instituted by most carriers beginning in 2008. In step with bag fees, in-flight food services have also been unbundled, with free meals on domestic flights replaced by snacks available for purchase (long overseas flights still offer meals). Another development closely related to unbundling has been the emergence of ultra-low-cost carriers (ULCCs), including Spirit, Frontier and Allegiant, which are able to offer very low fares partly by pushing unbundling of services to the limit, with charges for seat selection, carry-on bags, and more. A final development is that, after their initiation in the 1990s, airline alliances have become more dominant in the provision of international services for US fliers since 2000.

The merger-related consolidation of the airline industry has been a concern for many observers, who worry about lost competition and resulting effects on airfares. The “big-three”

mergers did lead to some initial reduction of competition on nonstop “overlap” routes, where the merger partners both provided pre-merger service. But by combining the route networks of the two merger partners, each merger created a larger network covering more of the country than either of the partners’ pre-merger networks. With each of the big-three mergers having this network-expansion effect, the result was three substantial networks with extremely wide coverage. As a result, a passenger flying from any city A to any city B often has a choice of three network carriers on which make their trip. For example, if I want to go from my home airport in Orange County, CA (SNA) to Philadelphia (PHL), a route where nonstop service is absent, I can take a connecting trip on American, Delta, or United, and other fliers have similar options. Despite airline consolidation, this proliferation of choices for passengers on connecting trips has actually increased, rather than decreased, the number of competing airlines present in an average city-pair market. Recent unpublished work by Darin Lee and Ethan Singer shows that the number of competitors per market (weighted by passenger volume) has increased from 3.22 in 1993 to 3.39 in 2003 and to 3.48 in 2024. Therefore, the consolidation heyday starting in 2001 actually led to a slight increase in competition in the average city-pair market despite the drop in the number of carriers.

While consolidation reduced competition in some markets, my joint research with Darin Lee and Ethan Singer (written around the time of the United-Continental merger and published in 2013)¹ predicted that the overall effects on fares would be small. One reason is that our results showed only modest fare effects from competition between legacy carriers (as opposed to competition from LCCs or ULCCs), which made fare increases from lost legacy competition correspondingly modest. For example, we predicted that, through fare changes, the total fare

¹ Jan K. Brueckner, Darin N. Lee, and Ethan Singer. “Airline Competition and Domestic U.S. Airfares: A Comprehensive Reappraisal.” *Economics of Transportation* 2 (March 2013).

revenue of the United-Continental merger partners would rise by only 0.08% (less than one-tenth of a percent) following their merger. Similarly, although the American-US Airways merger was yet to be proposed, we predicted that such a merger would raise total fare revenue of the partners by only 0.17% (less than one-fifth of a percent). We argued that these small fare effects would likely be dwarfed by fare-reducing cost synergies from the mergers, which we did not consider. We also did not consider the competition-enhancing effects described above from the joint occurrence of all the big-three mergers. Rather than making predictions, Dennis Carlton and coauthors carried out an extensive ex-post analysis of the big three mergers, finding only small, mixed fare effects, sometimes positive and sometimes negative, on nonstop and connecting overlap routes.²

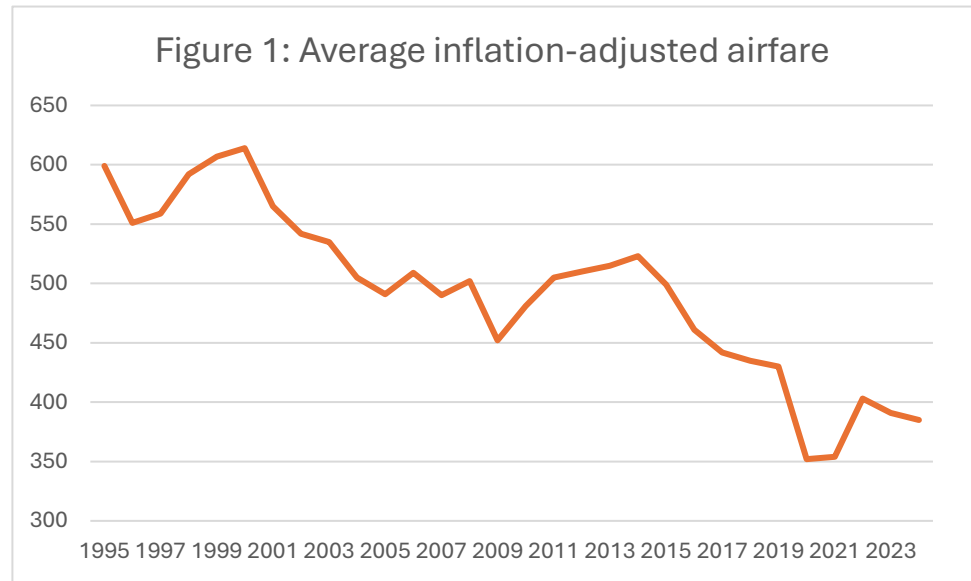
In line with the view that airline consolidation since 2000 did not have adverse effects on competition and fares, Table 1 and the graph in Figure 1 report US Bureau of Transportation Statistics data that traces the evolution since 1995 of the average airfare paid by US passengers, adjusted for inflation (measured in 2024 dollars). As can be seen, the average fare was \$614 in 2000, fluctuated around \$500 until 2015 (during the consolidation wave), dipped during the pandemic and then recovered, eventually falling to \$385 by 2024. Therefore, despite worries about airline consolidation, passengers today are paying the lowest inflation-adjusted fares since 1995.

While some commentators argue that the unbundling of airline services is unpopular with passengers, others claim that passengers like not having services they don't use (like checked bags) included in the ticket price. This latter view implicitly assumes that unbundling exerts downward

² Dennis Carlton, Mark Israel, Ian MacSwain, Eugene Orlov, "Are Legacy Airline Mergers Pro- or Anti-Competitive? Evidence from Recent U.S. Airline Mergers." *International Journal of Industrial Organization* 62 (January 2019).

Table 1

YEAR	\$ FARE
1995	599
1996	551
1997	559
1998	592
1999	607
2000	614
2001	565
2002	542
2003	535
2004	505
2005	491
2006	509
2007	490
2008	502
2009	452
2010	481
2011	505
2012	510
2013	515
2014	523
2015	499
2016	461
2017	442
2018	435
2019	430
2020	352
2021	354
2022	403
2023	391
2024	385



pressure on fares, and my joint work with Darin Lee, Pierre Picard, and Ethan Singer confirms this outcome.³ We studied the effect of the introduction of bag fees in 2008 and 2009 on airfares and found that fares did indeed fall when bag fees were introduced. As a result, passengers not checking a bag (and thus not paying a fee) often enjoyed a lower cost of flying following the introduction of bag fees. The fare reductions, however, were concentrated among the cheaper tickets, with the 25th percentile fare dropping by 5% (about \$7.00) while the 75th percentile fare declined by 3%, with the highest fares (which are often paid by passengers exempt from bag fees)

³ Jan K. Brueckner, Darin N. Lee, Pierre M. Picard, and Ethan Singer. “Product Unbundling in the Travel Industry: The Economics of Airline Bag Fees.” *Journal of Economics and Management Strategy* 27 (Fall 2015).

being unaffected. But since fees started at around \$15, these fare decreases were not sufficient to offset the bag fee itself for passengers checking bags, who experienced an overall cost increase (perhaps explaining unhappiness with checked-bag unbundling among certain groups).

Further evidence that some passengers like unbundling comes from the popularity of Spirit, Frontier and the other ULCCs, where any extra services must be paid for in return for cheaper tickets. Following their checked-bag and food unbundling, the network carriers have begun to offer more-extreme ULCC-style unbundling in the “basic economy” seats in the back of the plane, for which fares are low. By offering these seats, the network carriers have been better able to compete with the ULCCs, and this competitive pressure partly underlies Spirit’s recent bankruptcy filing. In parallel with basic-economy seats, the airlines’ offering of premium-economy seats in the front of the cabin at a higher cost is another way for passengers to buy what they want, in this case more leg room, quicker boarding and deplaning, and free alcohol. The upshot is that, like airline consolidation, the unbundling practices of US carriers should not be a major concern for observers of the industry.

The last of the major post-2000 developments in the airline industry, the consolidation of airline alliances, has also been mostly beneficial. Alliances arose largely in order to make international trips, which often involve a connecting trip between a US and foreign carrier, more “seamless,” like a trip on a single airline. This seamlessness is achieved by one-stop check-in, proximity of gates at connecting airports, coordinated schedules and baggage handling, and reciprocity of frequent-flier programs. While these features make international alliance trips more convenient than trips using two non-aligned carriers, passengers using alliances for connecting trips also benefit from lower fares than on non-aligned carriers. The reason is that, when able to coordinate in setting fares, airlines that become alliance partners have an incentive to reduce the

connecting ticket price relative to its pre-alliance level, benefitting passengers (as well as enhancing their own profits). This beneficial fare impact was first documented in my coauthored work with Tom Whalen in 2000,⁴ and it has been seen many times since in follow-up studies.

Alliances function by effectively combining the two networks of the partner airlines, which are mostly disjoint except for overlap routes between the partners' international gateway airports. Such overlap routes, where both partners provide parallel nonstop service, include New York-London for American and British Airways (Oneworld alliance founders), Atlanta-Paris for Delta and Air France/KLM (SkyTeam alliance), and Chicago-Frankfurt for United and Lufthansa (Star alliance). Since the alliance partners have antitrust immunity, which allows them to beneficially coordinate in reducing connecting fares, they are also able to coordinate in setting nonstop, single-airline fares on the gateway-to-gateway routes where they overlap (New York-London fares, for example). While coordination is procompetitive on connecting routes, it may be anticompetitive on gateway-to-gateway routes where a passenger selects one airline or the other (not combining both), with higher fares being a potential outcome.

This potential downside of alliances has been repeatedly weighed by regulators in decisions to grant antitrust immunity to alliance partners. Higher alliance fares on gateway-to-gateway overlap routes were nevertheless not observed empirically in the early days of alliances, but my joint work with Ethan Singer showed that such fare escalation emerged after 2010, confirming the concerns of regulators.⁵ Thus, while the procompetitive alliance effect means that a passenger using the Oneworld carriers AA and BA to fly from Buffalo to Toulouse, France (with an AA

⁴ Jan K. Brueckner and W. Tom Whalen. "The Price Effects of International Airline Alliances." *Journal of Law and Economics* 43 (October 2000).

⁵ Jan K. Brueckner and Ethan Singer. "Pricing by International Airline Alliances: A Retrospective Study." *Economics of Transportation* 20 (December 2019).

connection at JFK and a connection to a BA Toulouse flight at London-Heathrow (LHR)) would pay a lower fare than on non-aligned carriers, New York-London nonstop passengers would pay a higher fare because of the alliance overlap on the JFK-LHR route. However, our 2019 study showed that fare reductions for the large number connecting passengers using alliances dominate the higher fares on gateway-to-gateway routes, demonstrating that international alliances are on balance beneficial for passengers. If the convenience benefits of alliances could be measured and taken into account, which we could not do, this verdict would be even stronger.

These major developments in the airline industry since 2000—airline consolidation, product unbundling, and the consolidation of international airline alliances—have been largely beneficial for the traveling public, making adoption of new government policies focusing on these aspects of the industry mostly unwarranted. However, government intervention could be beneficial in dealing with an industry problem that has a longer history: airport congestion.

Congested airports lead to flight delays, which impose costs on both passengers and airlines. While many observers claim that building more runways is the solution to the congestion problem, economists point to a different remedy whose resource cost is virtually zero, in contrast to the huge cost of new runways. This solution is congestion pricing of airports, which would require airlines to pay higher landing fees at peak hours, instead of the same fees throughout the day, as under current practice. Such fees would be passed on through an increase in peak-hour airfares, which would lead passengers who can avoid peak-hour travel to book their trips instead at off-peak times. These passengers would include, for example, vacationers who happen to be returning home on peak-hour flights, but business passengers, who need to travel at peak times (early-morning and late-afternoon/early-evening) would keep those bookings, paying the higher

fares. Peak-hour trips are currently more expensive than off-peak trips, but the differential would widen under airport congestion pricing.

This scheme is motivated by the presence of a “congestion externality,” where an extra peak hour flight imposes delays on other flights that its operator may not take into account. Congestion charges make an airline pay for the resulting harm done to other carriers, in the same way that road pricing makes drivers pay for the delays imposed on others (as under the forthcoming New York congestion-pricing system, which is similar to those in London and Singapore).

The airport congestion externality is mostly absent when a single carrier controls nearly all the traffic at an airport, as at hub airports that are dominated by one airline (Dallas-Ft. Worth and Atlanta, among others). At such hubs, the dominant carrier “internalizes” the congestion it creates since that congestion is mostly imposed on its own flights, and the rationale for a congestion charge mostly disappears. But at airports where no single carrier has a dominant share, internalization is weaker, and congestion pricing is appropriate (examples are Chicago, Los Angeles, Boston and others). Congestion charges are also unneeded at the handful of slot-controlled airports, where the slot system is a substitute for pricing.

Although London-Heathrow airport briefly experimented with higher peak-hour landing fees, no airport in the world currently charges them. Part of the reason appears to be political opposition from the airlines, who view congestion pricing as a tax increase. This view is misguided, since landing fees would be reduced (perhaps to zero) at off-peak times, leaving the total fee burden of the airlines mostly unchanged. Since the Federal Aviation Administration rules have for years allowed airports to impose time-varying landing fees, there is no institutional impediment to doing so. The federal government could thus be more proactive in encouraging airports to try congestion pricing.