
Flying Blind: The Failure of Airline Deregulation

Paul Stephen Dempsey

Economic Policy Institute

1730 Rhode Island Ave., N.W. Suite 812, Washington, D.C. 20036
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Paul Stephen Dempsey is the Hughes Research Professor of Law and Director of the Transportation Law Program at the University of Denver College of Law. He is the author of more than thirty law review articles, numerous newspaper and magazine editorials, and three books: *Law & Economic Regulation in Transportation* (Quorum Books, 1986); *Law & Foreign Policy International Aviation* (Transnational Publishers, 1987); and *The Social & Economic Consequences of Deregulation* (Quorum Books, 1989).

Dr. Dempsey holds the following degrees: A.B.J., J.D., University of Georgia; LL.M., George Washington University; and D.C.L., McGill University. He was a Fulbright Scholar, was designated the University of Denver's Outstanding Scholar, and received the Transportation Lawyers Association's Distinguished Service Award.

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Table of Contents

EXECUTIVE SUMMARY	1
INTRODUCTION	3
ORIGINS OF AIRLINE REGULATION AND DEREGULATION	4
CONSEQUENCES OF DEREGULATION FOR INDUSTRY STRUCTURE	7
PRICING	26
SERVICE	37
SAFETY	42
REREGULATION: DARE WE SPEAK IT?	46
PUTTING THE AIRLINES BACK ON COURSE: A MODEST LEGISLATIVE AGENDA	50
CONCLUSIONS	60
APPENDIX	63
ENDNOTES	67

Executive Summary

This study examines the effect of airline deregulation on the airline industry, its customers, and on the U.S. air transportation system. It specifically compares the actual experience of the last decade against the promises that were made by those who successfully promoted the Airline Deregulation Act of 1978.

The report finds that after a decade of airline deregulation:

- concentration of national and regional market power is greater,
- routes are more circuitous,
- service is poorer,
- labor-management relations have deteriorated, and
- the margin of safety is narrower.

Contrary to widespread assertions, *these adverse effects have not been accompanied by lower ticket fares*. Adjusting for the impact of changes in inflation and fuel prices—which would have occurred with or without deregulation—ticket prices today are at least 2.6 percent *above* the level for which they were headed before deregulation took place.

If ticket prices could be adjusted for the loss of convenience and productivity resulting from increased route circuitry, there would be an even greater disparity between pre- and post-deregulation pricing trends.

After an initial burst of competition and price cutting, a new pattern of monopolistic and oligopolistic market power based on regional fortress hubs has emerged, erecting significant barriers to new entrants into the market. Thus, the comparatively vigorous price competition that characterized the industry in the years immediately following deregulation is unlikely to return. The *regulated oligopoly* which existed under regulation has now been replaced with an *unregulated oligopoly*, with inevitable further adverse effects on the consumer.

Neither economic nor equity goals appear to have been advanced by deregulation. The assumptions upon which it was based—that there were few scale economies in aviation; that destructive competition in this industry was unlikely; that “contestability” of markets (the ease of potential entry) would discipline pricing—have proven false.

The time has come to reconsider the experiment of airline deregulation. Airline transport is too critical to the productivity of the economy and the well-being of our citizens to abandon it to private concentrations of market power.

This study puts forth a legislative agenda for reform which attempts to steer a common sense course between heavy-handed regulation and *laissez faire*. Its provisions include:

- the establishment of an independent Federal Transportation Commission—not subject to capture by any single transport industry—which would regulate the industry from a broader perspective than was possible with the old regulatory system.
- the prohibition of a single airline from maintaining a dominant position at more than a single airport.

The time has come to reconsider the experiment of airline deregulation. Airline transport is too critical to the productivity of the economy and the well-being of our citizens to abandon it to private concentrations of market power.

- price regulation directed at keeping fares within a *range* which would prohibit price-gouging in thin markets on the one hand, and predatory pricing to drive out new competitors on the other.
- regulatory or legislative changes directed at eliminating price discrimination, so that fare differences reflect cost differences and *not* differential market power.

This study puts forth a legislative agenda for reform which attempts to steer a common sense course between heavy-handed regulation and laissez faire.

Introduction

In the United States, deregulation has been more thorough-going in transportation than in any other traditionally regulated sector. And among the several modes of transport (i.e., air, rail, water, bus and motor), airlines have been subjected to more comprehensive deregulation than any other. The Airline Deregulation Act of 1978 abolished the Civil Aeronautics Board (as of January 1, 1985), which had regulated the airline industry for four decades.

It was assumed that deregulation would create a healthy competitive environment, with lots of airlines offering a wide array of price and service options and a high level of safety. We now have more than a decade of empirical evidence to compare with these sanguine expectations. This article examines where the great American airline deregulation experiment has been, where it is, and where it appears to be going.

We begin with a review of the political, legal, and economic dimensions of airline regulation, and the historical context of deregulation. We then examine the consequences of deregulation, especially in those areas where the results have been contrary to what was predicted by its enthusiasts: our conclusion is that deregulation has been associated with unprecedented levels of concentration, discriminatory pricing, service deterioration and narrower safety margins and that by 1989, consumers were paying some 2.6 percent more to fly per mile than they would have had the pre-deregulation downward trend in the per-mile charge for flying simply continued. (And, given the lower quality and the greater mileage needed to make the same trip in an age of hub and spoking, very much more per trip.) The views of Alfred Kahn, the principal architect of airline deregulation, and still, on balance,¹ a major defender, receive special attention. We go on to examine the issue of whether a bit more regulation might be in the public interest, and, if so, what form it should take. We conclude with an analysis of the public interest in transportation and explain the need for a new national transportation policy.

Since airline deregulation was the prototype for a decade of aggressive deregulation throughout the economy, the results of our examination of the airlines may have wider implications. It would be a mistake, for instance, to take the experience of the early years of airline deregulation—when low, simply structured fares and dramatic competition from new entrants seemed to justify the wildest claims of its proponents—as a model of the benefits that deregulation can bring generally. These short-term gains, were followed by medium and, arguably, long-term pain. If the airline experience generalizes, the lesson would appear to be: “caveat deregulator.”

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Origins of Airline Regulation and Deregulation

The transportation industry has come full circle, from its genesis in an unrestrained *laissez faire* economic environment, through almost a century of comprehensive governmental regulation of entry, rates and other corporate activities, and now back again to *laissez faire*.

Market failure gave birth to economic regulation. In the eyes of early advocates of regulation, transportation was particularly prone to alternating periods of what was termed "destructive competition" and blatant monopoly or oligopoly. Because of the tremendous economies of scale along many different dimensions exhibited by much of the transport sector, the out-of-pocket or marginal cost of providing service tends to lie far below its full or average cost. (For example, given that a plane is flying between two cities with empty seats, the cost of filling one more seat is virtually nothing.) Unrestrained competition in these circumstances tends to drive the price down towards marginal cost, causing profits to disappear. Bankruptcies and mergers ensue as excess capacity is weeded out, and a profitable monopoly or oligopoly inexorably emerges. The restoration of market power may well be accomplished by a blatantly discriminating rate structure with price differences between different markets reflecting not relative costs but the differing degree of competition. (For example, again taking airlines, a price structure that could fill planes by segregating markets so that only the marginal customer paid a low fare while others paid fares far above cost would forestall the losses associated with marginal cost pricing but at the cost—to consumers—of blatantly discriminatory prices. The segregation of business and pleasure markets which deregulation has taken to new heights would thus have come as no surprise to early advocates of regulation in transportation.) The consumer, under the circumstances, sees things go from bad to worse, as an unstable pack of anemic, bankrupt carriers becomes a sleek, powerful price-discriminating monopoly or oligopoly. In the view of early advocates of regulation these two phenomena, destructive competition and powerful monopolies, were simply two sides of the same coin. The purpose of regulation, under these circumstances, was to eliminate this Hobson's choice for consumers: preventing the potential threats to safety, service and investment posed by destructive competition on the one hand, and the price-gouging and price discrimination associated with market power in a consolidated industry, on the other.

Price discrimination and destructive competition in the railroad industry prompted Congress to establish our nation's first independent regulatory agency, the Interstate Commerce Commission, in 1887.² During the Great Depression, Congress concluded that the economic condition of the airline industry was highly unstable, and that a continuation of its anemic condition could imperil its tremendous potential to satisfy national needs for growth and development. In order to avoid the deleterious impact of what was variously termed "cutthroat," "wasteful," "destructive," "excessive," or "unrestrained" competition,

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and avoid the economic chaos which had so plagued the rail and motor carrier industries, Congress sought to establish a regulatory structure for airlines similar to that which had been devised for these other "public utility" type industries.³ Thus, just three years after motor carriers were brought under the regulatory umbrella, Congress added airlines to the regulatory scheme, promulgating the Civil Aeronautics Act of 1938. In so doing, Congress created a new agency to regulate this industry, the Civil Aeronautics Board (CAB).⁴

In the 1960s and early 1970s, economists published a generous volume of literature critical of economic regulation.⁵ Principal among their criticisms was that pricing and entry restrictions gave consumers excessive service and insufficient price competition, inflated airline costs, and denied the industry adequate profits. Senator Edward Kennedy chaired subcommittee hearings which served as the political incubator of regulatory reform. The Kennedy Report concluded that deregulation would allow pricing flexibility which would stimulate new and innovative offerings, allow passengers the range of price and service options dictated by consumer demand, enhance carrier productivity and efficiency, increase industry health, and result in a superior allocation of society's resources.⁶

The movement in favor of a reduced governmental presence found support on both ends of the political spectrum. America was infected by a mass psychology of antagonism toward government, stimulated on the right by the Great Society and the growth of government spending and taxation, and on the left by Watergate and the War in Vietnam. For once, both sides viewed government as an enemy, rather than a friend.

With the inauguration of Jimmy Carter as President in 1976, the deregulation movement had a disciple in the White House. Carter appointed Cornell economics professor Alfred Kahn Chairman of the Civil Aeronautics Board. Kahn criticized traditional CAB regulation as having "(a) caused air fares to be considerably higher than they otherwise would be; (b) resulted in a serious misallocation of resources; (c) encouraged carrier inefficiency; (d) denied consumers the range of price/service options they would prefer, and; (e) created a chronic tendency toward excess capacity in the industry."⁷ As CAB Chairman, Kahn implemented a number of initiatives which liberalized entry and pricing. In the late 1970s, the immediate results of the relatively modest efforts at regulatory reform were quite positive. Carriers in the late 1970s stimulated new demand by offering low fares which filled capacity, and allowed them to enjoy robust profits.⁸ This created a general euphoria in Washington and in the media that we were on the right course.

Working with the White House, Kahn put his charismatic personality solidly behind the legislative effort for reform.⁹ The predictions as to what deregulation would bring were quite optimistic, despite strong misgivings by most of the industry. Kahn assured a skeptical public that the benefits of deregulation would be universally shared: "I am confident that . . . consumers will benefit; that the communities throughout the nation—large and small—which depend upon air transportation for

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their economic well being will benefit, and that the people most closely connected with the airlines—their employees, their stockholders, their creditors—will benefit as well.”¹⁰

Congress responded by promulgating the Air Cargo Deregulation Act of 1977 and the Airline Deregulation Act of 1978. The legislation received overwhelming bipartisan legislative support.

The Act was intended to provide a gradual transition to deregulated entry and rates, although the CAB quickly dropped any notion of “gradual” deregulation under Kahn’s successor, CAB Chairman Marvin Cohen. What had begun as a program of modest liberalization became an avalanche of abdication of responsible government oversight. Implementation of the new policy was immediate and comprehensive. The Deregulation Act also called for the “sunset” of the CAB in 1985, when its remaining responsibilities, including oversight of mergers in the industry, were transferred to the U.S. Department of Transportation (DOT), an executive branch agency.

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Consequences of Deregulation for Industry Structure

Allocative Efficiency, Competition, and Contestability

Deregulation's proponents believed that, freed from the shackles of government, the airline industry would become more competitive, providing the range of price and service options dictated by consumer demand, tapping the elasticities of demand with lower prices, filling capacity, enhancing efficiency, and improving profitability.¹¹ They also believed that neither safety nor small community access would unduly suffer.¹²

Destructive competition, whose purported existence gave birth to regulation of these two industries in the 1930s, was deemed unlikely to occur.¹³ But this apparent consensus among economists concealed a basic difference about what a "healthy competitive environment" required. An old joke has the borrower of a jar returning it broken and being asked to explain. He responds that he never borrowed it and, moreover, that it was broken when he got it. There is a similar conflict between the two views about why deregulation would stimulate competition which appeared among its advocates, sometimes in the same person.

The 'traditionalist' view, as it might be called, whose adherents in the 1970s included many of the incumbent regulators, held that competitive pricing required a sizable number of competitors. Based on some academic studies which failed to find significant economies of scale¹⁴ in the production of air transport, they argued that a deregulated industry *would* have enough competitors to satisfy the traditional notion of workable competition. In the absence of any cost advantages of big firms over small, there would be no motive to merge to achieve such non-existent economies. This line of argument, then, denied that the air transport industry was a "natural monopoly" (or oligopoly) due to falling unit costs. If costs do not fall over some dimensions, then the view of the industry as being prone to bouts of destructive competition—the view which motivated the early architects of airline regulation—was also called into question. The tendency of prices to approach marginal cost where there is unrestrained competition would not then imply that losses were inevitable with more than a few competitors or the corollary that the prolonged presence of a sizable number of competitors was unlikely.

A second argument for deregulation was based on the notion of "contestability."¹⁵ Some deregulation proponents did not deny that air transport had significant economies of scale, scope, or density and other natural monopoly characteristics, but insisted that they need not be a problem, because a natural monopolist would be forced to price at cost by the threat of *potential* entry. Thus, markets which were not competitive in the traditional sense of having many competitors might yet be 'contestable', under certain conditions, conditions which the airline industry was alleged to fulfill.

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A decade ago, Kahn dismissed fears that the industry would become highly concentrated—large airlines, he argued, had no advantages over small ones.

There are three key assumptions to the theory. First, the potential entrant has access to the same technology as the incumbent (there are no absolute cost advantages for the incumbent). Second, entry into and exit from a particular market is costless—there are no “sunk” costs involved. Third, consumers respond to a price reduction on the entrants’ part more quickly than incumbents can respond with a matching price cut. If these assumptions were satisfied the mere *threat* of a post-entry price-matching by the incumbent would not suffice to deter entry. Unless prices always remained at cost, there would be an incentive for costless entry to grab some of the monopoly rent, for however short a period, to be followed by costless exit when the incumbent matched the entrant’s lower price. In the airline example, the potential entrant could fly in his “capital on wings” to grab the rent that could be captured by a slight undercutting of the incumbent and then fly out when the incumbent actually matched, thus avoiding a price war and the associated losses altogether. This possibility would then force the natural monopolist to price at cost at all times.

Alfred Kahn’s writing provides instances of both these arguments despite the logical tension between them. Because he was articulate and passionate about deregulation, we turn to him for instances of each. First, traditionalism. A decade ago, Kahn dismissed fears that the industry would become highly concentrated—large airlines, he argued, had no advantages over small ones. Testifying before a House Subcommittee in 1978, Congressman Roman Hruska posed the following question:

[Y]ou are going to invite into the area of new entry the severest competition between airlines who service that particular market and ultimately the big will eat the little, and those who are able to withstand the severe competition and the reduced fares—even below operating expenses—will prevail. Then the airlines that cannot prevail, of course, will have to go out of business or do something else.

After that transition period then you are going to see the air fares go back up again and the big will control the airline industry.¹⁶

Kahn dismissed these fears as unfounded:

First, the assumption that you are going to get really intense, severe, cut throat competition just seems to me unrealistic when you are talking about a relatively small number of carriers who meet one another in one market after another. We don’t find in American industry generally when you have a few relatively large carriers competing with one another that they engage in bitter and extended price wars.

But number two, the fear that the big will eat the little, that is one that I would really like to nail. If you look, as I did last week, at the stock market prices of the securities of the big airlines today you will find that while the average certificated carriers in the United States stock is selling at about two-thirds of book value . . . three of the five biggest carriers . . . stock is selling at 33 to 37 percent of

book value . . . That means to me the investors do not believe that prediction.¹⁷

Similarly, in 1977 hearings before the a House Subcommittee, Kahn said, "I do not honestly believe that the big airlines are going to be able to wipe out the smaller airlines, if only because every study we have ever made seems to show that there are not economies of scale."¹⁸

True to his traditionalism, Kahn is not unconcerned about the substantial concentration that exists in air-transport today, contrary to his expectations. Today Kahn admits that, in advocating deregulation, he had misperceived the advantages of the large firms in the airline industry.¹⁹ Now he says, "we underestimated the importance of economies of scale and scope."²⁰ Elsewhere, Kahn has conceded, "We advocates of deregulation were misled by the apparent lack of evidence of economies of scale."²¹ In a 1988 article in the *Transportation Law Journal*, he admitted that prices are likely to rise, saying, "I have little doubt that . . . the disappearance of most of the price-cutting new entrants and the marked reconcentration of the industry—will produce higher fares."²² Similarly, in testimony before the Senate Commerce Committee in 1987, Kahn said, "the industry has become more concentrated at the national level because of mergers and airline failures, and that means in my judgment that price competition may well become less severe in the years ahead."²³

The trouble is, transportation has simply turned out not to be the ideal model of perfect competition that the traditionalist proponents of deregulation insisted it was. There appear to be significant economies of scale, scope and density, which will be discussed in detail in the next section.

For an example of the non-traditionalist view (that airline transport, while naturally concentrated, nevertheless exhibits "contestability") we turn to Alfred Kahn again. In the late 1970s, Kahn proclaimed:

Almost all of this industry's markets can support only a single carrier or a few: their natural structure, therefore, is monopolistic or oligopolistic. This kind of structure could still be conducive to highly effective competition if only the government would get out of the way; the *ease of potential entry into those individual markets, and the constant threat of its materializing*, could well suffice to prevent monopolistic exploitation.²⁴

Entry, or more precisely the *threat* of potential entry would keep monopolists from extracting monopoly profits. This was the essence of contestability theory. In 1977, Kahn testified before a House Subcommittee on the importance of the automatic entry provisions of a pending airline deregulation bill, saying:

[A] realistic threat of entry by new and existing carriers on the initiation of management alone is the essential element of competition.

It is only this threat that makes it possible to leave to managements a wider measure of discretion in pricing. It is the threat of entry that will hold excessive price increases in check.²⁵

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Kahn advanced the theory on many occasions as Chairman of the Civil Aeronautics Board. Before another House Committee in 1977, Kahn testified, "Were it not for Government restrictions, entry would be relatively easy."²⁶ And in a recent interview, Alfred Kahn noted, "Certainly one of the assumptions behind airline deregulation was that entry would be relatively easy."²⁷

As with the traditionalist prediction of many competitors and few size economies, the actual deregulation experience has seemed to mock the non-traditionalist scenario of 'contestable' airline markets as well. Kahn is more honest than most deregulation proponents in evaluating the theory in the light of the facts. In testimony delivered in 1987 before a subcommittee of the Senate Judiciary Committee, Kahn was far less enthusiastic about the potential benefits of contestability:

I attack the easy assumption of the ideologues of *laissez faire* that contestability takes care of everything; that private parties cannot monopolize airline markets because the minute they raise their price two bits, there will be a rush of competitors into the market.

I know of seven studies now of airline pricing since deregulation. They all conclude that while, yes, airline markets are relatively easy to enter, the potential entry of competitors is no substitute for competitors already there. . .

Now, the view that contestability of airline markets makes anti-trust enforcement unnecessary is very close to the position that DOT is taking [in the airline merger cases].

Contestability is not a sufficient protection, in my opinion, and anybody who looks at the airline industry certainly knows that the likelihood and opportunity of entry, particularly by new carriers—low-cost, price-cutting carriers—has greatly diminished in recent years and is likely to remain much lower than before.²⁸

We will see that both the traditionalists and the non-traditionalists were wrong: after a preliminary bout of classically destructive competition, deregulation has produced a highly concentrated oligopoly. Such concentration followed a rash of mergers and expansions directed at capturing scale economies that the traditionalists denied existed. Further, that this oligopoly, contrary to the non-traditional view, fails to act like a competitive firm, pricing at cost, but exploits its market power, seems increasingly clear.

Industry Economic Anemia

Although destructive competition in the airline industry during the 1930s was a major rationale for economic regulation in this industry, deregulation's proponents insisted that deregulation would not create destructive competition. Kahn again can set the scene for us. In a speech before the New York Society of Security Analysts in 1978, he characterized the opposition to airline deregulation as follows:

The most general fear about [airline deregulation] is that when the CAB withdraws its protective hand from the doorknob, the door

will open to destructive competition—to wasteful entry and cut-throat pricing—that will depress profits, render the industry unable to raise capital, and so cause a deterioration in the service it provides—on the whole, it must be admitted good service.²⁹

Kahn saw the fear as unrealistic. Testifying before the House Public Works Committee, he insisted, “I just do not see any reason to believe that an industry which is potentially rapidly growing, for which there is an ever-growing market, cannot prosper and attract capital.”³⁰ Kahn scoffed at deregulation’s proponents who believed:

there is something about airlines that drives businessmen crazy—that once the CAB removes its body from the threshold, they will rush into markets pell-mell, en masse, without regard to the size of each, how many sellers it can sustain, and how many others may be entering at the same time.³¹

But in fact, as a decade of empirical evidence reveals, deregulation *has* brought about cut-throat pricing, a miserable level of industry profitability, insufficient capital to re-equip its aging fleet, and a deterioration of service.

Since deregulation began, the airline industry has suffered the worst economic losses in its history.³² This period of economic anemia began before the onset of the economic recession of the early 1980s and ascending fuel prices, and continued steadfastly after it.³³ While the bottom line has recently improved as the industry has become so highly concentrated, its average annual net profit margin over the last 11 years has been a meager 0.7 percent, compared with 4.5 percent for other U.S. industries.³⁴

Ten years after he implemented airline deregulation as President Carter’s Chairman of the Civil Aeronautics Board, Alfred Kahn wrote, “There is no denying that the profit record of the industry since 1978 has been dismal, that deregulation bears substantial responsibility, and that the proponents of deregulation did not anticipate such financial distress—either so intense or so long-continued.”³⁵

As noted above, deregulation was largely premised on the assumption that there were no significant economies of scale or barriers to entry in the airline industry. New competitors, it was argued, would spring up to challenge the entrenched incumbents, and the industry would become hotly competitive. In the short run, more than 120 new airlines appeared, although most were small, commuter lines.³⁶ This flood of entry caused prices to spiral downward. While a short term boon for consumers, the price competition which emerged from deregulation was an unmitigated catastrophe for the airline industry and therefore, in the long run, for consumers as well. In the long run, more than 200 airlines have gone bankrupt or been acquired in mergers,³⁷ and only 74 carriers remain.³⁸ Among the casualties are such darlings of deregulation as Air Florida, Freddie Laker’s Skytrain, and Donald Burr’s People Express. Alfred Kahn once pointed to these new upstart airlines as evidence that deregulation was a brilliant success. But they have all since dropped from the skies. America West, and Midway remain, but

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they have a relatively insignificant share of the domestic air transport market.

The price wars, erosion of profitability, and industry shakeout which occurred in the aftermath of deregulation provided a textbook illustration of the unique economic characteristics of transportation which make it inherently vulnerable to price wars and excess capacity. Transportation firms sell what is, in essence, an instantly perishable commodity. Once an aircraft taxis down the runway, any unused capacity is lost forever. Empty seats cannot be warehoused and sold another day as could, say, canned beans. This inevitably leads to distress sale pricing during weak demand periods, or when excess capacity created by unlimited entry abounds.

The short-term marginal cost of adding another passenger to a scheduled flight is virtually nil—printing another ticket, adding another meal and a few drops of fuel, for example. Any ticket sold makes some contribution. Hence, strong incentives exist to sell empty seats for whatever will lure a bottom to fill them.³⁹ Carriers competing head to head spiral downward in destructive competition. In such circumstances, while carriers cover short-term marginal costs, fixed costs are necessarily ignored.

It was these rather unique and brutal characteristics of air transport that led to distress sale pricing in the early 1980s, following deregulation. To survive this darkest financial period in the history of domestic aviation, carriers had no choice but to slash wages, trim service and maintenance, and defer new aircraft purchases. The insistence on the part of the deregulators in seeing air transport as just another industry, an almost willful ignorance on their part of the historical experience of destructive competition in transportation—the experience which led to regulation in the first place—has had grave but perfectly predictable consequences.

Airlines needed monopoly opportunities to stem the economic brutality of destructive competition, so they merged and developed hub-and-spoke systems, giving them regional and city-pair market power. It is natural for firms facing extinction to seek out or create monopoly market opportunities to afford them the market power to raise prices. Thus, the large number of industry bankruptcies and mergers, and the growth of national and regional (hub) concentration, owe their existence to the destructive competition unleashed by deregulation.

Concentration

■ **National Concentration.** The intense destructive competition unleashed by deregulation has reduced the number of major competitors at the national level through waves of bankruptcies and mergers to the point that the airlines have become in the words of Alfred Kahn, an “uncomfortably tight oligopoly.”⁴⁰

There were 51 airline mergers and acquisitions between 1979 and 1988. More than 20 of those were approved by DOT after 1985, when it assumed jurisdiction over mergers. Fifteen independent airlines operating at the beginning of 1986 had been merged into six megacarriers by

the end of 1987. The six largest airlines increased their passenger share from 71.3 percent in 1978, to 79.2 percent in 1987.⁴¹ The eight largest airlines accounted for 81 percent of the domestic market in 1978, and 92 percent in 1989.⁴²

The Department of Transportation approved *every* airline merger submitted to it after it assumed the Civil Aeronautics Board's jurisdiction over mergers, acquisitions and consolidations (under section 408 of the Federal Aviation Act) on December 31, 1984. The Airline Deregulation Act of 1978 insisted that the agency guard against "unfair, deceptive, predatory, or anticompetitive practices" and avoid "unreasonable industry concentration, excessive market domination" and similar occurrences which might enable "carriers unreasonably to increase prices, reduce services, or exclude competition."⁴³ But these admonitions fell on deaf ears at DOT, which never met a merger it didn't like.

For example, DOT approved Texas Air's (i.e. Continental and New York Air) acquisition of both People Express (which included Frontier), and Eastern Airlines (which included Braniff's Latin American routes);⁴⁴ United's acquisition of Pan Am's transpacific routes; American's acquisition of AirCal; Delta's acquisition of Western; Northwest's acquisition of Republic (itself a product of the mergers of North Central, Southern and Hughes Airwest); TWA's acquisition of Ozark; and USAir's acquisition of PSA and Piedmont. The major mergers which have been consummated since deregulation are depicted on the following chart:⁴⁵

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CHART I

**Major Air Carrier Mergers, Acquisitions, Purchases
and Consolidations Since Promulgation of the Airline
Deregulation Act of 1978**

	1987	Market share 1988	1989
American ————— AMERICAN	13.8	15.2	16.6
Air Cal —————			
United ————— UNITED	16.9	16.4	16.2
Pan Am (transpacific routes) —————			
Texas International ————— TEXAS AIR	19.0	19.3	15.9
Continental —————			
New York Air —————			
Frontier ————— People Express —————			
Britt —————			
PBA —————			
Braniff (Latin America) ————— Eastern —————			
Rocky Mountain —————			
Delta ————— DELTA	12.2	12.0	13.3
Western —————			
Northwest ————— NORTHWEST	10.3	8.9	9.6
North Central ————— Republic —————			
Southern —————			
Hughes Airwest —————			
TWA ————— TWA	8.2	7.4	7.2
Ozark —————			
USAIR ————— USAIR	7.1	7.2	7.2
PSA —————			
Empire ————— Piedmont —————			
Henson —————			
Pan Am ————— PAN AM	6.3	7.1	5.9
National —————			
Ransome —————			

Sources: *Business Week*, Oct. 5, 1987, at 40, and *Wall Street Journal*, Mar. 10, 1989, at A8.

Nor are these likely to be the last of the mergers. Carl Icahn, who owns TWA, has announced that he would like to purchase another airline.⁴⁶ Pan Am has been mentioned as ripe for acquisition or bankruptcy. So as to stay aloft, Pan Am has already sold off its trans-Pacific routes and aircraft, its Inter-Continental Hotel chain, and its Manhattan skyscraper.

Eastern itself entered bankruptcy in early 1989. Even before bankruptcy, Eastern was the incredibly shrinking airline, selling its east coast shuttle to Donald Trump, and its computer reservations system and other valuable assets to firms controlled by Frank Lorenzo's Texas Air.⁴⁷

With the globalization of air transport, the potential looms for the creation of *international* megacarriers. Already American, JAL and Quantas are trying to buy 35 percent of Air New Zealand, British Airways has acquired British Caledonian, SAS has purchased a 9.9 percent interest in Texas Air, Swissair and Singapore Airlines each have 5 percent of Delta, Ansett of Australia holds 20 percent of America West, JAL has 20 percent of Hawaiian Airlines, KLM holds 25 percent of Northwest, and several European airlines have bought into United's Apollo/Covia computer reservations system.⁴⁸ Liberalization of air transportation in the European Economic Community scheduled for 1992 will likely increase levels of concentration on that side of the Atlantic, and foster more joint arrangements with U.S. carriers (although cabotage laws prohibit more than 25 percent foreign ownership of U.S.-flag airlines).⁴⁹ By the end of the century, there may be as few as nine or ten global megacarriers.⁵⁰ U.S. megacarriers already dominate the global aviation industry:

With the globalization of air transport, the potential looms for the creation of international megacarriers.

CHART II

World's Top Ten Airlines, 1987

<u>Airline</u>	<u>Scheduled Passengers (m)</u>
American Airlines	59.1
United Airlines	55.2
Eastern Airlines	44.7
Continental Airlines	39.4
TWA	24.8
British Airways	19.1
Japan Air Lines	17.9
Lufthansa	16.9
Pan American	14.8
Alitalia	14.3

Source: *The Economist* (Mar. 11, 1989), at 63.

We are left with a situation aptly summarized by Morton Beyer:

The 11 major airlines have shrunk to eight; the eight former local service carriers are now two and they are trying to merge; the eight original low-cost charter airlines have been reduced to one, through bankruptcy and abandonment; 14 former regional airlines have shrunk to only four; over 100 new upstart airlines were

certificated by the CAB and about 32 got off the ground and most of those crashed, leaving only a handful still operating; of the 50 top commuters in existence in 1978, 29 have disappeared . . .

Today, the top 50 commuter carriers who constitute 90 percent of that industry are captives of the major carriers, in part or in total owned, controlled, and financed by the giant airlines and relegated to serving the big airlines at their hubs.⁵¹

Since deregulation, all major airlines have created hub-and-spoke systems, funneling their arrivals and departures into and out of hub airports where they dominate the arrivals, departures, and infrastructure.

■ **Hub Concentration.** Alfred Kahn blames the emergence of what he characterizes as an “uncomfortably tight oligopoly”⁵² in domestic air transportation on the Department of Transportation’s permissive approach to airline mergers: “They have been *permitted* by a totally, and in my view indefensibly, complaisant Department of Transportation. It is absurd to blame deregulation for this abysmal dereliction.”⁵³ But, as becomes particularly clear upon examining the deregulation-induced growth of ‘fortress’ hubs, mergers and acquisitions alone cannot explain the growing concentration of the industry. Even without mergers, the trend was to reconfigure routes in such a way as to constitute a de facto parcelling out of airports among ostensible competitors. Lax antitrust policy only aggravated this basic trend.

All but four *hub airports* are now dominated by a single airline, with more than 60 percent, 70 percent, and sometimes 80 percent of landings, takeoffs, gates, and passengers (see Chart III and discussion below). Since deregulation, all major airlines have created hub-and-spoke systems, funneling their arrivals and departures into and out of hub airports where they dominate the arrivals, departures, and infrastructure.⁵⁴ While entry and exit regulation formerly constricted their geographic operations, deregulation has freed airlines to leave competitive and smaller markets, and consolidate their strength into regional hub and city-pair market monopolies and oligopolies. The destructive competitive environment of deregulation has led them to seek out monopoly opportunities to stem the hemorrhaging of dollars. Ironically, a lax antitrust policy may have saved the industry from a plethora of bankruptcies. But as the dust settles upon the bankruptcies and mergers of deregulation, and the hub consolidation facilitated by unlimited entry and exit, we see a horizon devoid of meaningful competition.

Clearly, the merger of Northwest and Republic resulted in sharply increased levels of concentration at Minneapolis/St. Paul and Detroit; and equally clearly, the same happened at St. Louis when DOT approved the merger of TWA with Ozark Airlines. But as Chart III reveals, massive hub concentration has occurred at a large number of cities where no merger had a significant impact.

CHART III

Single Carrier Concentration at Major Airports Pre and Post Deregulation

Airport	1977		1987	
Baltimore/Washington	24.5%	USAir	60.0%	USAir*
Cincinnati	35.0	Delta	67.6	Delta
Detroit Metropolitan	21.2	Delta	64.9	Northwest
Houston Intercontinental	20.4	Continental	71.5	Continental
Memphis	40.2	Delta	86.7	Northwest
Minneapolis/St. Paul	45.9	Northwest	81.6	Northwest
Nashville Metropolitan	28.2	American	60.2	American
Pittsburgh	43.7	USAir	82.8	USAir
St. Louis-Lambert	39.1	TWA	82.3	TWA
Salt Lake City	39.6	Western	74.5	Delta
AVERAGE	33.8		73.2	

* includes Piedmont

Source: Consumer Reports (June 1988), at 362-67.

To these figures add the excessive levels of concentration that also have emerged in the monopoly hubs of Charlotte (87 percent Piedmont), Chicago Midway (65 percent Midway), Dallas Love (91 percent Southwest), Dayton (64 percent Piedmont), Newark (65 percent Texas Air), and Raleigh (67 percent American), as well as the duopoly hubs of Atlanta (95 percent Delta and Eastern), Chicago (72 percent American and United), Dallas (87 percent American and Delta), and Denver (89 percent Texas Air and United).⁵⁵ Even Chicago O'Hare and Atlanta Hartsfield are increasingly dominated by a single firm. In 1977, United had 29 percent of all boardings in Chicago; by 1988, it had 53 percent.⁵⁶ Even before the bankruptcy of Eastern, Delta controlled 62 percent of Atlanta.⁵⁷ Since Frontier was absorbed, first by People Express and then by Continental (Texas Air), no hub airport has enjoyed the three-carrier competition which theretofore existed at Denver.⁵⁸

Indeed, *the explanation for significant levels of hub concentration at all but Detroit, Minneapolis/St. Paul and St. Louis is not DOT's generous approval of airline mergers, but simply the entry and exit opportunities unleashed by deregulation.* Carriers adopting particular cities as hubs have increased frequencies and leased more gates, while incumbent airlines have quietly exited in favor of market dominance opportunities of their own in other hub airports.⁵⁹ Freedom to enter and exit markets is the very heart of deregulation, and it is responsible for concentration at more hub airports than is the DOT's "dereliction," "abysmal" though it clearly is.⁶⁰ The CAB would almost certainly not have approved the widespread entry and abandonments which produced this massive hub concentration.

A study prepared by Dr. Julius Maldutis confirms the high levels of hub concentration resulting from deregulation. Maldutis reviewed concentration levels at 50 of the nation's busiest airports between 1977 and 1987, calculating the Herfindahl-Hirschman Index (HHI) for each. The HHI is the methodology employed by the U.S. Department of Justice

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**Hub concentration
translates into
escalating fares.**

for determining acceptable levels of concentration for antitrust review. It provides a measure based on squaring the market shares of individual firms, and adding them together. For example, a firm with a 100 percent monopoly would have a HHI of 10,000. Under the Justice Department's analysis, an HHI below 1,000 is presumed unconcentrated; an HHI of between 1,000 and 1,800 is believed moderately concentrated; and an HHI of above 1,800 is deemed highly concentrated. By 1987, 40 of these 50 airports had an HHI above 1,800; in other words 80 percent of these airports were highly concentrated. Moreover, Maldutis calculated the weighted average of concentration for all 50 airports, finding that it rose from an HHI of 2,215 in 1977, to 3,513 in 1987.⁶¹ This corresponds to a fall in the number of "effective"⁶² competitors in the average of the 50 airports from 4.51 in 1977 to 2.85 in 1987.

Hub concentration translates into escalating fares. The *New York Times* has observed, "Passengers who live in a hub city and begin their flight there end up paying higher fares, in some cases 50 percent more than they would had deregulation not occurred."⁶³ The General Accounting Office found that, after its merger with Ozark, TWA increased fares 13-18 percent on formerly competitive routes radiating from St. Louis.⁶⁴ A similar study compared fares in markets radiating from Minneapolis-St. Paul in which Northwest and Republic formerly competed, and found that rates rose between 18-40 percent.⁶⁵

In 15 of the 18 hubs in which a single carrier controls more than 50 percent of the market, passengers pay significantly more than the industry norm.⁶⁶ A recent study by the U.S. Department of Transportation of nine hub airports found that fares at all but two increased faster between 1985 and 1988 than the 11.1 percent increase in the airline component of the Consumer Price Index:

CHART IV

**Airline Hub Market Shares and Price Increases
Between 1985 and 1988**

Hub Airport	Dominant Carrier	Fare Increases
Atlanta	Delta (62%)	5%
Charlotte	Piedmont (89%)	34
Cincinnati	Delta (81%)	25
Detroit	Northwest (62%)	27
Minneapolis	Northwest (77%)	21
Pittsburgh	USAir (80%)	-6
Raleigh	American (67%)	35
St. Louis	TWA (83%)	22
Salt Lake City	Delta (77%)	26

Source: *Washington Post*, February 5, 1989, at H2, col. 5.

In a study released in 1989, the General Accounting Office compared 1988 fares at 15 concentrated⁶⁷ hub airports with fares at 38 unconcentrated airports, and found average fares 27 percent higher at the hubs.⁶⁸ The higher fares at concentrated airports do not reflect a premium for non-stop service, since the average number of coupons per traveller at concentrated airports was virtually identical to that at the comparison,

unconcentrated airports (2.26 vs. 2.28 coupons). And the difference persisted when average trip length was controlled for, by excluding from the comparison group of airports those where average trip length was significantly longer than for concentrated airports. Thus neither a higher proportion of non-stops nor a higher proportion of short haul (and thus more costly) flights can explain the fare premium at concentrated airports, the study concludes. The study also found that the increase in fares from 1985-1988 was generally greater at concentrated airports, and that the increase in fares was especially dramatic when a carrier established dominance during the period (providing further confirmation of the effect of concentration on fares that had been documented in GAO's earlier study of airfares at St. Louis following the TWA-Ozark merger). Finally the study found that in 13 of 15 of the concentrated airports, the dominant carrier had higher fares, in some cases very much higher, than other carriers at the same airport.

A recent study by Severin Borenstein⁶⁹ finds that the relationship between airport dominance and the level of fares stands up to sophisticated econometric analysis which controls for cost and quality effects on fares. His estimates imply that: "a 10 percent increase in the average endpoint enplanement share for an itinerary would lead to a 4.3 percent increase in average fare."⁷⁰

■ **City-Pair Concentration.** Many defenders of deregulation dismiss the concerns of critics about the unprecedented levels of *national* concentration in the airline industry deregulation has permitted, on the grounds that the relevant markets are not national, but "city-pair" markets—the market for air transport between a particular pair of cities. Thus a Congressional Budget Office (CBO) study of airline deregulation⁷¹ contends that:

While there has been a substantial increase in industry concentration since 1983, there has not been a corresponding increase in concentration at the market level. . . . The effective number of carriers serving [city-pair] markets of more than 200 miles with 25 or more passengers per day has grown from 2.4 carriers in 1983 to 2.5 carriers in 1987.⁷²

The CBO does not provide data on the earlier period (1978-1983), but characterizes the evidence as indicating a significant increase in competition over the period as a whole. Since the latter part of the period saw an increase of a scant one-tenth of a competitor, any "significant" increase would have to have come in the earlier period, prior to the consolidation of the industry after 1983. In a later section of their report, CBO claims (without citation) that at the time of passage of the Airline Deregulation Act, "the average city-pair with non-stop flights was served by 1.4 carriers." Using this figure, it is clear that for all practical purposes, new entry had all but ceased by 1983 and that the 'significant' increase in competition in question amounts to a change from an effective monopoly (1.4 competitors), but a *regulated* monopoly, to an *unregulated* duopoly in the average city-pair market. Given

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the doubts which have arisen on the score of the "contestability" of airline markets, to be discussed in the next section, and thus the dubious role of potential entry in disciplining the actions of incumbent carriers, it is difficult to take a great deal of solace in the "increased competition" in the average market for which deregulation is, by this measure, responsible.

Furthermore, there are problems with market definition. The figures presented above, and those used by most of the proponents of deregulation, pertain to the provision of *single-carrier* service between two cities, either non-stop or indirectly through connections over the carrier's hub. This is from one perspective too broad a focus, and, from another, too narrow.

If it is believed that non-stop service has unique attractions making it a separate market compared with connecting service, the direction of change in concentration in this narrower market is reversed. The effective number of carriers providing non-stop service *fell* in the period from 1983 to 1987 (the period for which the CBO study gives data)⁷³ for the average city-pair market. On the other hand, a broader definition of the market for air transport between two cities would need to include not just single-carrier connecting service but also interlining possibilities, which have been drastically reduced in the deregulation period due to the rise of hub and spoking coupled with the tendency toward hub dominance noted above.⁷⁴ The arbitrary definition of the market which *includes* single-carrier connecting flights but *excludes* inter-line connections thus biases the resulting picture of changes in concentration towards a showing of more competition.

Like the CBO, Alfred Kahn insists that the airline industry is more competitive post-deregulation because there are now fewer monopoly *city-pair* markets despite the increase in industry concentration.⁷⁵ Chart 5 sustains this claim:

CHART V

Number of City-Pair Markets Receiving Service By One Or More Scheduled Carriers

No. of Carriers	Number of Markets	
	Oct. 1978	July 1988
1	4,093	3,481
2	899	1,054
3	233	413
4	80	192
5	21	83
6	14	45
7	9	22
8	6	14
9	2	4
10+	2	6
TOTAL	5,359	5,314

Source: DOT analysis of Official Airline Guide Data, printed in *Traffic World*, Dec. 5, 1988, at Supp. B.

But the same caveats made with regard to CBO's argument apply here. It is true that the overall number of monopoly markets has fallen since deregulation. But remember that, under regulation, a monopolist cannot extract monopoly rents from buyers because its rates are required by law to be "just and reasonable." Neither telephone companies nor electric utilities can charge monopoly rates despite their monopoly position because their rate and service levels are regulated by governmental agencies. But an unregulated monopoly can charge whatever the market will bear.

In 1978, single firms which dominated 76 percent of America's city-pair markets were limited by the Civil Aeronautics Board to charging "just and reasonable" rates, and earning no more than a reasonable return on investment. In 1988, monopoly carriers in nearly two-thirds of America's city-pair markets could charge whatever the market would bear. At the time the Airline Deregulation Act was before Congress, Kahn urged that "No automatic [pricing] freedom should be allowed in markets dominated by a single carrier."⁷⁶ Today, nearly two-thirds of our nation's city-pairs are unregulated monopolies.

Nor are duopolies hot-beds of competition. Two firms may implicitly agree to lethargic price and service competition, enjoying in effect a "shared monopoly." In 1978, 93 percent of America's markets were *regulated* monopolies or duopolies; in 1988, 85 percent of America's markets were *unregulated* monopolies or duopolies. Statistically, that suggests an improvement. But, again, remember that today, no government agency protects the public against monopoly pricing, and the extraction of monopoly profits.

Thus, whether we look at national, airport, or city-pair measures of concentration, the traditionalist argument for deregulation seems to have been refuted by the empirical experience. Economies of size (scale, scope and, density), the putative absence of which was at the heart of the traditionalist case for deregulation, seem to be pervasive. Former DOT Assistant Secretary Matthew Scocozza recently confessed, "To be very honest, in 1978 we envisioned that there would be a hundred airlines flying to every major hub."⁷⁷ We turn now to the evidence for the non-traditionalist case, which depended on the ease of potential entry to discipline the behavior of even a natural monopoly or duopoly.

Contestability Mythology Debunked

For several reasons, it is unlikely that a new entrant will emerge to rival the megacarriers. First, the infrastructure of gates, terminal facilities, and at four of America's busiest airports (i.e., Chicago O'Hare, Washington National, and New York's LaGuardia and Kennedy) landing slots, have been consumed. Sixty-eight percent of our airports have no gates to lease to a new entrant.⁷⁸ Even if an incumbent would be willing to lease a gate to an upstart airline (and at a carrier's hub, few are so willing), the incumbent could nevertheless exact monopoly rents for their lease. For example, at Detroit, Northwest charges sublessee Southwest Airlines 18 times what Northwest itself pays for the space. The

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decision of DOT to allow carriers to buy and sell landing slots means that the deeper-pocket carriers can purchase market share, and thereby enjoy market power to reap monopoly profits.⁷⁹

Second, United and American, the largest airlines, today own the largest computer reservations systems, from which 90 percent of tickets are sold.⁸⁰ Many critics argue that such vertical integration offers the incumbents the potential to enjoy various forms of system bias (including screen bias, connecting point bias, and database bias).⁸¹ As the General Accounting Office, among others, has concluded, the airline-owned systems are so dominant that they stifle competition in the industry.⁸² An airline which owns a CRS has a 13 percent to 18 percent greater likelihood of selling its tickets through its system.⁸³ United and American own the dominant computer reservations systems, which together account for 77 percent of passenger bookings.

Moreover, the advantage of being listed in the computer as an "on line" connection with one of the major airlines has led 48 of the 50 small air carriers to affiliate themselves with the megacarriers, renaming their companies (to, for example, United Express, Continental Express, or American Eagle) and repainting their aircraft in megacARRIER colors. Ninety percent of the 31.7 million passengers who flew aboard regional airlines in 1987 were carried aboard code-sharing airlines.⁸⁴ The small carriers have become, in effect, franchisees of the behemoths of the industry, and are therefore an unlikely source from which new competition will spring. They are also declining in number. The regional airlines, peaking at 246 in 1981, dwindled to 168 by 1987.⁸⁵ Sophisticated computers also give airlines the ability to manage yield in a way to adjust the number of seats for which discounts are offered on an hourly basis, depending on passenger demand.⁸⁶

Third, large airlines have more attractive frequent flyer programs, which serve to capture business travelers, the most lucrative segment of the market. Once committed to a carrier's frequent flyer program and having some investment in accumulated mileage, business travelers often prefer that carrier over its rivals even when the rivals' flights are cheaper, especially since most business travel is not paid for by the individual flying, but by his/her firm.

The brand loyalty created by frequent flyer programs insures that a potential rival will find it difficult to find a niche. Even those potential customers without previously accumulated frequent flier mileage with the incumbent will be less willing to accumulate future mileage with a new carrier offering full travel to decidedly less exotic destinations. Let us say that we could find a major airport with sufficient capacity to allow us to establish a hub. How could, say, an Air Omaha lure passengers away from its rivals' frequent flyer programs with their free trips to Hawaii, when ours could only offer a free weekend in Cedar Rapids?

Not only are the frequent flyer programs creating passenger loyalty, but commission overrides—bonuses paid to agents who generate some target revenue level for a carrier—are generating travel agent loyalty.⁸⁷ Hence, both the passenger and agent often prefer a more expensive,

established airline to a discount carrier. Indeed, the travel agent has been given an incentive to engage in fraud. Suppose the consumer calls and asks whether there is a flight on Carrier A at noon. There is, but the agent is working toward commission overrides on Carrier B this month. How easy it would be for the agent to say, "Sorry, the noon flight is sold out. But I can get you a seat at 1:30 on Carrier B."

Fourth, although new entrants enjoyed significantly lower labor costs in the inaugural years of deregulation, the squeeze on carrier profits unleashed by deregulation has forced management to exact serious concessions in terms of labor wages and work rules. Some, like Continental, Eastern, and TWA, have effectively crushed their unions. Others, like United, American, and Delta, established two-tier pay scales, with B grade pay for newly hired employees. Thus, the margin of labor cost and productivity between a new entrant and an established airline has been significantly narrowed.

Fifth, incumbents have shown that they will not sit idly by while new rivals rob them of market share. When the new entrants offer lower fares, the incumbents almost always match them. This destroys the new rival for a number of reasons. For example, suppose our new carrier, Air Omaha, does some calculations and finds that if it offers a \$49 fare between Omaha and Minneapolis, it will fill about 70 percent of its seats, because the incumbent, Northwest, offers no fare so low.⁸⁸ Because of lower labor costs and the use of leased, relatively old equipment, let us assume Air Omaha's break-even load factor is a modest 55 percent.⁸⁹ So, Air Omaha begins operations and rolls in a healthy profit, right?

Wrong. Northwest matches the \$49 fare, and Air Omaha's load factors drop to, say 35 percent, well below its break even load factor. Not only can Northwest withstand the loss because of its deeper pocket, but the discount fare actually costs it little, because it is only offered to passengers traveling between the two points (origin and destination traffic). Remember, Northwest has a major hub in Minneapolis, and most of its passengers are traveling from or to points beyond—in industry jargon, they constitute "beyond-segment feed"; they are not offered the bargain fare. Thus, only a portion of Northwest's passengers are enjoying the discount. Moreover, many of the business travelers in the city-pair market will be willing to pay more than \$49 because they are addicted to Northwest's frequent flyer program. Air Omaha must eventually exit the market, for ordinarily only a carrier with a hub at the other end point can successfully challenge a rival at its hub.

Finally, with more than 150 airlines having failed since 1978, many having been pushed into the abyss of bankruptcy by the predatory behavior of their larger rivals, investor confidence in new airline ventures has largely evaporated.⁹⁰

Hence, significant new entry is highly unlikely in the deregulated airline industry.⁹¹ The dominance by incumbent carriers of gates, terminal space, landing and takeoff slots, computer reservations systems, and the most attractive frequent flyer programs makes it unlikely that new

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entrants will emerge to challenge the megacarriers. In fact, no major carrier has emerged since 1985.⁹²

More and more observers are concluding that the airline industry post-deregulation is not "contestable" in the sense required for the theory to apply⁹³—entry barriers are pervasive, especially in hub airports. As one commentator noted:

[E]ntry into the industry by new carriers seems remote, and entry onto new routes is far more difficult than many envisioned it would be with deregulation. Many airline observers thought that the 1978 deregulation of pricing and entry would make airline markets "contestable." That is, airlines could engage in "hit-and-run" entry into each other's markets in response to profit opportunities—simply by shifting a plane from one route to another. Instead the evidence compiled in the USAir-Piedmont record, as well as a large body of solid research by economic and legal scholars in the past three years, demonstrates that incumbent airlines are frequently able to charge higher prices on routes where other carriers face barriers to entry.⁹⁴

Here again, as with traditionalists and scale economies, deregulation's non-traditionalist proponents overestimated the competitive nature of the industry. As Charles Rule, Assistant Attorney General for Antitrust, recently observed, "[M]ost airline markets do not appear to be contestable, if they ever were. . . . [D]ifficulties of entry, particularly on city pairs involving hub cities, mean that hit-and-run entry is a theory that does not comport with current reality."⁹⁵ Even Kahn admits as much:

Certainly one of the assumptions behind airline deregulation was that entry would be relatively easy. . . . *We believed that while entry should be legally free and would be relatively easy, we never thought that would provide adequate protection in markets that are naturally monopolistic or oligopolistic—that just won't support more than one or two carriers.* But what happened was that the ideologues began simplistically to parrot the word "contestability" as though it were a substitute for looking at the realities, even if the realities were manifestly changing, even if survival of the new entrants was becoming more and more questionable, as more and more of them were going out of business, and even as it became clear that domination of hubs was increasingly unchallengeable by new entrants.⁹⁶

But even if new entry is unlikely, why should we be concerned with the high level of concentration which has emerged in the airline industry under deregulation? After all, even though Coke and Pepsi dominate the soft drink industry, don't we still have price competition between them? Although other American industries are dominated by huge firms, transportation is different in the way it impacts the economy. As Melvin Brenner put it:

Other industries, even when comprised of only a few large firms, do not usually end up with a one-supplier monopoly in specific local markets. But this can happen in air transportation.

Moreover, because of the nature of transportation, a local monopoly can do greater harm to a community than could a local monopoly in some other industry. This is because transportation is a basic part of the economic/social/cultural infrastructure, which affects the efficiency of all other business activities in a community and the quality of life of its residents. The ability of a city to retain existing industries, and attract new ones, is uniquely dependent upon the adequacy, convenience, and reasonable pricing of its airline service.⁹⁷

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Pricing

Alfred Kahn once argued that deregulation would bring about cost-based pricing. After a decade of deregulation, prices seem to reflect the level of competition in any market, not costs. As we saw in the preceding section, there appears to be a negative correlation between the level of competition and price, with markets having fewer competitors exhibiting higher prices.⁹⁸

Admittedly, competition has enabled some users (particularly passengers with flexible schedules in major airline markets) to enjoy lower prices. Low fares have stimulated new traffic in the past decade, mostly for vacation travelers flying between large cities served by more than a single carrier.⁹⁹ But business travelers and individuals flying to small towns, or people who, at the last minute, have to fly home for funerals or other emergencies, are ineligible for these discounts.¹⁰⁰ Deregulation inevitably eradicates some of the important benefits derived from the traditional scheme of economic regulation, including the prohibition against price discrimination.¹⁰¹

Moreover, the unprecedented concentration emerging as a result of massive bankruptcies and mergers threatens to make the low prices enjoyed in large, competitive markets a short-term phenomenon. In fact, as will be shown in what follows, *the aggregate benefits from fare reductions may very well have reached zero in 1988—holding fuel prices constant, the real yield or revenue per passenger mile (a commonly used measure of average fares) that was being paid in 1988 was exactly what a projection of the pre-deregulation (downward) trend would have given for that same year.* This reflects a one-time drop in the years immediately following deregulation coupled with a *slower rate of decline of fuel-adjusted real revenues per passenger mile after deregulation than before.* The rate of decline is so much lower that the pre-deregulation downward trend in fuel-adjusted fares 'caught up' with the actual levels by 1988—despite the early decline of approximately 13 percent in real terms. The gains from deregulation have proven short-lived indeed; they are already a thing of the past. A preliminary estimate for 1989 indicates that consumers are paying 2.6 percent more than the projection of the pre-deregulation trend.

Growing consumer irritation with the deregulated airline industry is reflected in public opinion polls. In 1984, when consumers were asked if airlines should be allowed to raise or lower their fares on their own, or if they should be required to get government permission, only 35 percent believed that they should be required to get the government's permission. However, as consumers became more acquainted with deregulation, they became less enamored of it. In 1987, when asked the same question, almost half were willing to opt for more government rate regulation.¹⁰² Even Alfred Kahn has admitted that it may be time to consider price ceilings in markets dominated by a single carrier.¹⁰³

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Cross Subsidization and Price Discrimination

Prior to deregulation, there was some amount of cross-subsidization within the transportation industry. While carriers were allowed to serve specified lucrative routes, they were also required to serve less lucrative markets in the geographic territory designated by their operating certificates. Carriers were expected to cross-subsidize losses or meager profits earned from serving small communities with healthier revenues earned from dense, lucrative markets, and provide just and reasonable rates to both. Deregulation was designed to end this internal cross-subsidization on grounds that such wealth redistribution created allocative inefficiency.

Actually, cross-subsidization appears merely to have been reversed in direction, rather than eliminated. Today, carriers impose higher rates in their monopoly and oligopoly markets to cross-subsidize the losses they are incurring as a result of the intensive competitive battles being waged for market share in dense traffic lanes.¹⁰⁴ For example, recently the airline rate from Dubuque to Chicago was \$1 per seat mile, while the fare from New York to Los Angeles was 3.3 cents per seat mile.¹⁰⁵ In 1987, a round trip coach ticket between International Falls, MN, and Minneapolis/St. Paul was 86 cents a seat mile; between Washington, D.C., and Minneapolis/St. Paul, the fare was 27 cents a seat mile. The trip from Madison, WI, to St. Louis cost \$225 one way, while a ticket from New York to Los Angeles via St. Louis was only \$199.¹⁰⁶ (The complete disconnection of relative prices from relative costs is apparent in cases such as Delta's flights from Oakland to Salt Lake City versus Oakland to Phoenix. The latter flights stop in Salt Lake, Delta's hub, but cost much less than the former. Obviously, unless the leg from Salt Lake to Phoenix has negative costs, the lower unit costs of flying longer distances are not the explanation; the level of competition in the Oakland to Phoenix market (comparatively high) versus Oakland to Salt Lake (low) is the explanation. Unfortunately for Delta, they have not figured out a way to stop Salt Lake City-bound travelers from buying tickets to Phoenix and getting off in Salt Lake, throwing away the unused coupon.) These fares take from those who fly from or to small towns and give to those who fly to large cities, in competitive battles waged for domination of the larger, more lucrative markets. In the short-term, passengers flying in dense, competitive markets enjoy a windfall. The carriers which are ultimately victorious in those price wars stand to reap significant economic rewards once the dust has settled and the competition has been eliminated.

Price Savings

Most proponents of deregulation point to what they claim are significant price reductions enjoyed by consumers during the past decade. Alfred Kahn, for example, claims that, adjusted for inflation, fares have dropped 30 percent since 1976. Lesser savings are alleged by former DOT Secretary (and deregulation proponent) James Burnley, who claimed that by 1988 fares had dropped 13 percent since deregulation,

The carriers which are ultimately victorious in those price wars stand to reap significant economic rewards once the dust has settled and the competition has been eliminated.

Real yields fell in the period prior to deregulation as well. From 1967-1977 they fell at an annual average rate of 1.7 percent a year, compared to the post-deregulation (1978-1988) rate of decline of 2.4 percent per year.

adjusted for inflation.¹⁰⁷ Both estimates precede the demise of Eastern, when fares began to grow more seriously, and Kahn employs a base year two years prior to promulgation of the Airlines Deregulation Act.

According to the Air Transport Association, real yields (revenues per passenger mile) have fallen 22 percent since 1978 and 28 percent since 1977, when Alfred Kahn took over at the CAB and began to allow more flexible pricing by the airlines (see Column 1 of Table 1). This seems like an impressive achievement indeed, until it is compared with the historical record prior to deregulation, on the one hand, and the behavior of the crucially important price of jet fuel on the other. This sobering comparison, which clearly shows the emptiness of the attempt to attribute the reduction in real fares since 1977-78 to deregulation, is displayed in Table 1.

TABLE 1
Yield and Fuel Price Indices
(1978=100)

	Real Yield (revenue per passenger mile)	Real Fuel Prices	Fuel Adjusted Real Yields
1967	129.2	55.9	143.8
1968	123.5	54.1	138.0
1969	121.7	50.9	137.1
1970	117.3	47.0	133.4
1971	117.7	46.2	134.2
1972	114.3	46.3	130.3
1973	112.3	47.7	127.6
1974	116.2	82.1	120.9
1975	111.0	90.2	113.3
1976	110.1	92.5	111.9
1977	109.3	99.3	109.5
1978	100.0	100.0	100.0
1979	94.2	131.7	88.0
1980	104.9	180.1	90.0
1981	106.9	189.8	90.3
1982	95.9	168.6	84.0
1983	91.9	148.0	83.3
1984	91.8	135.7	84.9
1985	85.4	124.0	80.7
1986	77.5	140.7	79.1
1987	76.5	81.6	78.4
1988	78.4	74.9	81.4
Growth Rates:			
1967-77	-1.7	5.9	-2.7
1978-88	-2.4	-2.8	-2.0

Source: Air Transport Association and author's calculations—see Appendix.

In the first place, it should be noted that real yields fell in the period prior to deregulation as well. From 1967-1977 they fell at an annual average rate of 1.7 percent a year, compared to the post-deregulation (1978-1988) rate of decline of 2.4 percent per year. On the surface, it looks as if deregulation may have at best speeded up the rate of decline; attributing the *entire* decline to deregulation ignores the pre-existing downward trend. (Melvin Brenner has made this point for the eight years before and after deregulation.¹⁰⁸ Another source points out that air fares have been declining at about the same rate for more than 40 years—a long-term trend preceding deregulation by several decades.¹⁰⁹)

But even this more moderate claim of an accelerated rate of decline in prices after deregulation is put in doubt by the figures presented in column 2 of the table. Here we see that real yields (prices) fell in the ten year period prior to deregulation *despite a doubling of the real cost of fuel*, while the somewhat higher rate of decline post-deregulation occurred in the context of a 25 percent *decline* in the real price of fuel. During the period as a whole fuel constituted anywhere from 12 percent of costs in the early 1960s to 30 percent after the second oil shock and back down to 15-16 percent in recent years, according to data from the Air Transport Association.¹¹⁰ Thus between 12 and 30 percent (depending on the year) of the percentage change in real fuel prices that occurs during a given period has absolutely nothing to do with whether the industry is regulated or deregulated. The third column of the table takes this into account by taking out of the real yield series the changes that were solely attributable to changing real fuel prices (calculated for a given year as the product of the fuel share of all cash expenses in the previous year and the contemporaneous percentage change in real fuel costs—see the Appendix for details). The result is exhibited in column 3. It shows that *holding fuel prices constant*, the real price of air travel fell more rapidly (an annual average percentage decline of 2.7 percent) in the period prior to deregulation than after deregulation (2.0 percent). Roughly, real yields would have fallen 1 percentage point more a year (17 percent of 5.9) had it not been for the average 5.9 percent increase in real fuel prices during the period 1967-1977; while real yields would have fallen .4 percent less per year (about 14 percent of 2.8) had it not been for a totally gratuitous 2.8 percent annual *decline* in real fuel prices during the 78-88 period.

The fuel-adjusted series shows dramatically what the person-on-the-street senses about deregulation but what the unadjusted data obscure, namely, the enormous “front-loading” of the gains from deregulation: from 1977 to 1978 and 1978 to 1979 fuel-adjusted real yields fell 10 and 12 percent respectively; it then took from 1979-88 for real yields to fall another 10 percent—an annual average percentage decline of only .9 percent! The unadjusted data obscure this by making the first few years of deregulation, which coincided with the second oil shock, look worse than they were; while the latter part of the period, when real fuel prices plummeted, looks much better than it actually was. Note, too, that from 1985-88 fuel-adjusted real fares actually rose—the only three year period during 21 years when this was so.

The apparent difference in the rate of decline of real revenues per passenger mile before and after deregulation was tested for statistical significance using regression techniques (see the Appendix for the detailed results). The *unadjusted* real yield series falls significantly faster after deregulation than before (at a continuously compounded annual rate of 3.1 percent from 78-88 compared with 1.5 percent from 67-77).¹¹¹ The fuel-adjusted series, on the other hand, falls at a significantly faster rate *before* deregulation—at 2.7 percent from 1967-77 versus 1.9 percent from 1978-88.¹¹² Instead of falling twice as quickly after deregulation—as the unadjusted numbers would suggest—real

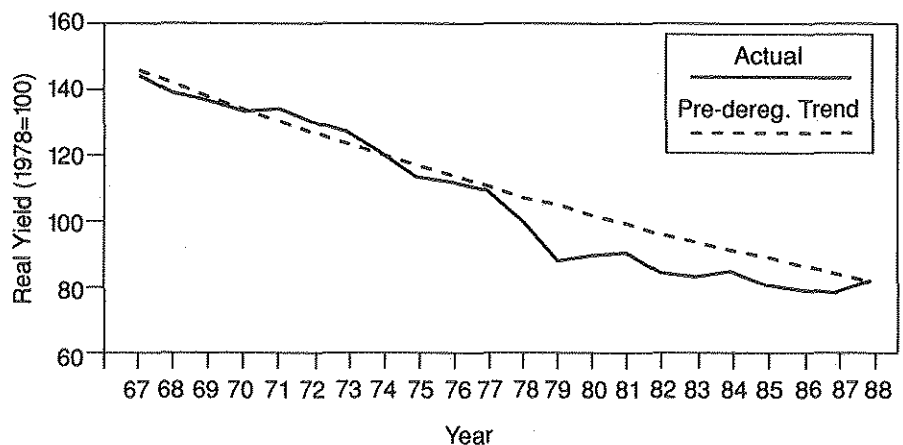
Holding fuel prices constant, the real price of air travel fell more rapidly (an annual average percentage decline of 2.7 percent) in the period prior to deregulation than after deregulation (2.0 percent).

By 1988 . . . consumers were paying "net" prices (net of the effects of fuel) exactly equal to what they would have paid had pre-deregulation trends continued.

airline yields per passenger mile fell at a 30 percent slower rate *after* deregulation. The regressions also suggest that deregulation was responsible for a one-time reduction in fares on the order of 13 percent; as Figure 1 shows, however, by 1988—due to the slower rate of decline of real fares—all the gains of this one-time shift had been dissipated. By 1988, that is, consumers were paying "net" prices (net of the effects of fuel) exactly equal to what they would have paid had pre-deregulation trends continued. By comparison Figure 2 shows the pre-deregulation trend compared with actual when only "gross" prices—unadjusted for fuel cost changes—are examined. Again this is dramatically misleading as an indicator of consumer gains—attributing to deregulation what is really a result of lower oil prices. The case for a gain to consumers from deregulation based on the 28 percent fall in unadjusted real yields since 1977 is entirely vacuous, to put it charitably.

Figure 1

**Fuel-Adjusted Real Yields (1967-88)
Actual vs. Pre-deregulation Trend**

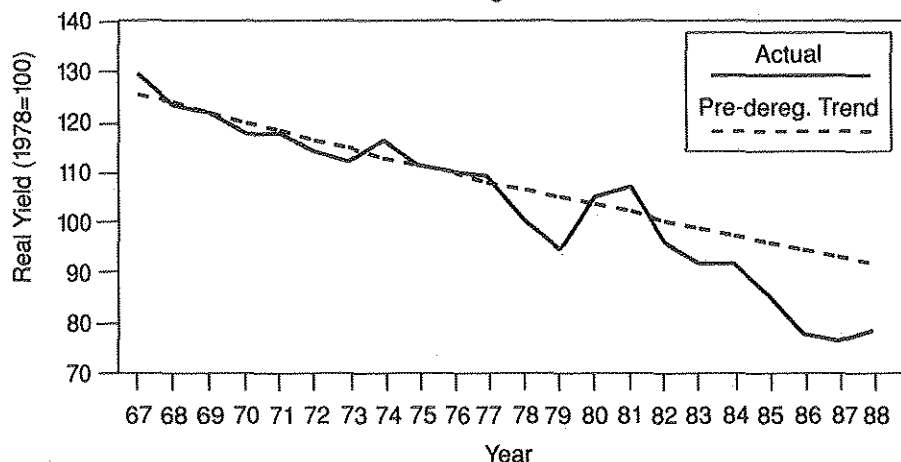


Source: Air Transport Association and author's calculations.

The industry's use of revenue per passenger mile as a measure of consumer prices also presents a significant methodological distortion. Consumers who in 1988 were paying in real terms net of fuel exactly what they paid prior to deregulation per passenger mile were in general flying more miles to make the same trip after deregulation than before. Thus, a decline in revenue per passenger mile may represent only an increase in miles for making the same trip, with no reduction—or even an increase—in the price of the trip! Hub and spoking has significantly increased circuitry in air travel, thereby lengthening the distance between origin and destination. Many (if not most) passengers who do not begin or end their trip in a hub airport have to fly more miles to get to their destination than before deregulation, with estimates of this effect ranging from 5 percent to 30 percent for the average trip.¹¹³ For example, the loss of pre-deregulation Boston-San Francisco nonstops means that some travelers in the market have no choice but to fly through a

Figure 2

**Real Yields (1967-88)
Actual vs. Pre-deregulation Trend**



Source: Air Transport Association and author's calculations.

hub (through, for example, Minneapolis on Northwest, through Atlanta on Delta, through St. Louis on TWA, through Dallas on American, through Denver on United, and so on). The pre-deregulation Boston-San Francisco passenger yield was for fewer miles (2,429 to be exact) than the post-deregulation Boston-Dallas-San Francisco trip (which is 3,024 miles, or 24 percent more, and takes about four hours longer).¹¹⁴ *Due to the greater circuitry, then, consumers paid more in 1988 than they would have paid projecting the pre-deregulation trend—the same net price per passenger mile amounted to a higher charge to go from point A to point B. Quantitatively this effect would mean that the price of a trip in 1988 would be higher by some 5 to 30 percent—the range reflecting the wide range in estimates of increased circuitry noted above.*

In addition to more circuitous flights, deregulation appears to have brought us a roller coaster ride of high and low fares—fares which change on an hourly basis, and include a labyrinth of restrictions, including nonrefundability. This instability of the rate structure is reflected in the following chart.

CHART VI

Air Fare Changes Under Deregulation

Year	Number of Fare Changes	Net Price Changes
1982	4,611,888	-4%
1983	6,532,728	-2
1984	6,090,834	+4
1985	10,624,574	-3
1986	20,255,405	-7
1987	49,369,278	+2
1988	48,241,972*	+7**

* annualized

** estimate

Source: Fortune (Dec. 19, 1988), at 9.

Due to the greater circuitry, then, consumers paid more in 1988 than they would have paid projecting the pre-deregulation trend—the same net price per passenger mile amounted to a higher charge to go from point A to point B.

The good we were buying prior to deregulation is not the same good we buy today—it is significantly lower in quality along many dimensions, adding insult to injury.

Hence, the choice among a bewildering array of fares has undoubtedly made the acquisition of information for consumers more difficult and more costly. Transactions costs for both producers and consumers appear to have grown sharply under deregulation. And the nonrefundable tickets we forfeit because we cannot fly them must be added on top of the price we pay for air travel.

We have argued that the 28 percent fall in real yields that has occurred since deregulation would have occurred as well under regulation—given the same fall in real fuel prices as occurred under deregulation and projecting the pre-deregulation trend behavior of real yields net of fuel costs. A widely-cited study of deregulation by Steven Morrison and Clifford Winston of the Brookings Institution¹⁵ alleges that deregulation is responsible for a 30 percent real fare reduction—suspiciously close to the actual reduction, a reduction that we have argued cannot properly be attributed to deregulation. They claim, however, to be doing a “counter-factual” analysis to come up with their estimate—to be asking what deregulation did to fares holding all other factors constant. If they had in fact done so, their estimate would not be subject to the argument we have made here. However, as is argued in the Appendix, their estimate does *not* hold all other factors constant. In particular it does not hold time constant—a crucial consideration in industries which become more efficient over time and where a time trend proxies the secular gain in efficiency. The airline industry is such a progressive sector. Thus we claim that both the naive attribution of the actual reduction in real fares since 1977 to deregulation and the more sophisticated “counter-factual” analysis of Morrison and Winston are misleading, and that the *average real fare per mile was not lower in 1988 (and is estimated to be some 2.6 percent higher in 1989) as a result of deregulation, that the real fare per trip was actually higher (perhaps by as much as 30 percent) due to the greater circuitry attributable to hub and spoking, and that the volatility and associated transactions costs were higher as well. In addition, the good we were buying prior to deregulation is not the same good we buy today—it is significantly lower in quality along many dimensions, adding insult to injury. We are paying more for less, on average, despite gains for some consumers, particularly pleasure travelers travelling long-haul routes between large cities.*

Quality Disintegration: Ticket Restriction and Delays

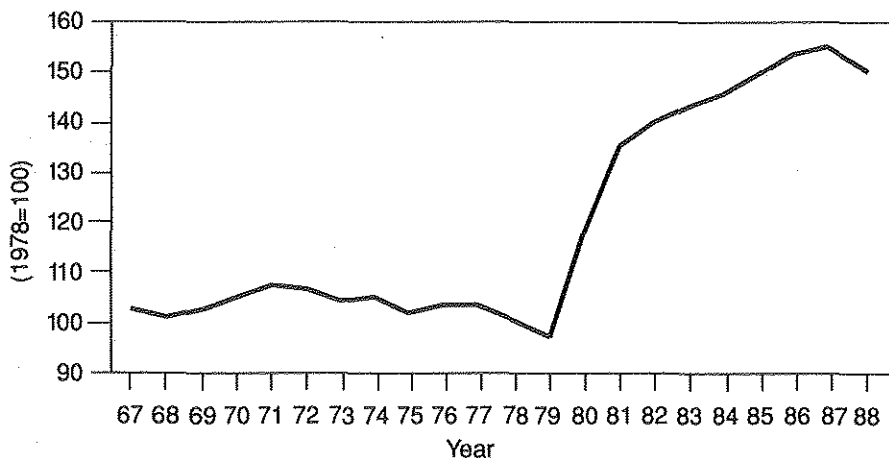
It is widely recognized that the average fare reductions we have seen during deregulation are a reflection not of lower unrestricted first class or coach fares but of the enormous increase in discounting (from 48.2 percent of all revenue passenger miles in 1979 to 91 percent in 1988¹⁶). But the discount fare category is a different (lower-quality) good in many respects than the undiscounted version—due to time restrictions of various sorts, advance purchase requirements, non-refundability, etc. If instead of looking at the average fare paid regardless of quality, one were to treat each fare category as a different good—which goes too far

in the other direction, but is instructive nonetheless—the behavior of fares appears *dramatically* worse under deregulation. Indeed, *full* fares have risen 156 percent since 1978, double the rate of growth of the Consumer Price Index. As Melvin Brenner has noted, “Getting a 50 percent discount is no bargain, when its calculated from a list price that was first raised 200 percent or more.”¹¹⁷

The Bureau of Labor Statistics (BLS), in the air transport component of the Consumer Price Index (CPI), prices a fixed bundle of fares in different fare categories—first class, discount first class, coach and discount coach—to construct an index of air fares.¹¹⁸ Figures 3 and 4 show the behavior of this index over the period 67-88 after adjusting for inflation and—for Figure 4 only—changes in real fuel prices. The index rises dramatically after deregulation in both cases. Prior to deregulation, this index of airfares was either flat or falling, depending on whether the measure is adjusted for fuel price changes. In either case, however, *real fares rose some 50 percent after deregulation!* Given that the mix of discounted vs. undiscounted traffic has remained roughly flat (at 90 percent) in recent years,¹¹⁹ the post-deregulation behavior of this mix-held-constant measure of airfares does not augur well for consumers in the future.

The changing mix of air travel towards discounted fare categories entails some deterioration in quality. But perhaps more important is the increase in delays and schedule uncertainty that pertain to flying—in any category—in the brave new world of deregulation.

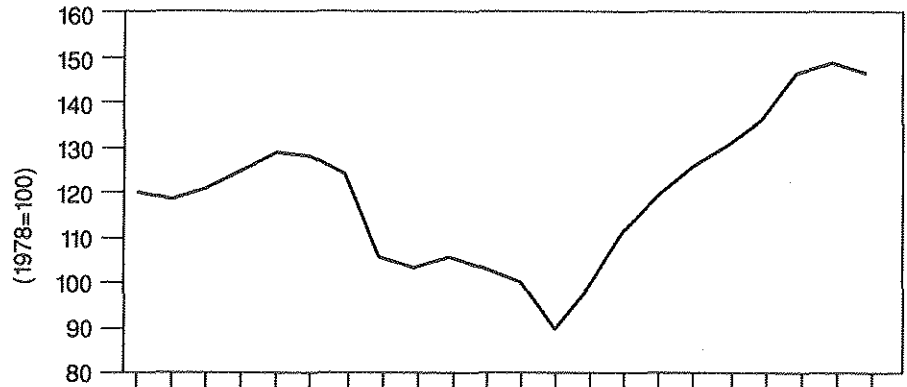
**Figure 3
Real Airfares
(1967-88)**



Source: Bureau of Labor Statistics.

Thus, the changing mix of air travel towards discounted fare categories entails some deterioration in quality. But perhaps more important is the increase in delays and schedule uncertainty that pertain to flying—in any category—in the brave new world of deregulation. The opportunity cost of air travel—the time we lose stranded at airports, imprisoned in aircraft, or routed through circuitous hub connections seems—to have increased significantly under deregulation. The widely acclaimed Brookings Institution study on airline deregulation by Morrison and Winston alleged that consumers save \$6 billion annually as a

Figure 4
Fuel-Adjusted Real Airfares
(1967-88)



Source: Bureau of Labor Statistics.

result of deregulation, comprised of fare discounts and opportunity cost savings realized as a result of "improved service convenience [to business travelers] attributable to the accelerated development of hub-and-spoke operations and to frequency improvements in low-density markets."¹²⁰ Of the \$6 billion, approximately \$4 billion is attributable to these alleged opportunity cost *savings*.¹²¹ (We have already seen reason to doubt that consumers have saved *anything*, let alone \$2 billion, from lower fares.) The overall import of the study was that airline service had not declined since deregulation began, but because of additional frequencies, had actually improved. Ostensibly, businessmen save time because they have more frequencies from which to choose. It is fair to say that most businessmen, if polled, would find such an assumption implausible.

By focusing on the number of flights in larger markets as the dominant measure of airline service, the Brookings Study appears to have missed that which most real-world flyers see. Whatever the improvements in the rate structure since deregulation, the consensus of most of what is written about airlines in this environment is that service has declined significantly. While consistently measured data on delays over a long time period is not available, the epidemic of delays which pervades the airline industry seems actually to have imposed significant opportunity costs, not benefits. Because of the undependability of airline schedules, many business travelers find they must arrive in a city the evening before a business meeting in order to be sure they will be there.¹²² Moreover the delays experienced at congested airports constitute the other side of the coin of the frequency improvements in thin markets noted by Brookings: both result, arguably, from the same phenomenon—the move to hub and spoking. As Brenner notes:

The very increase in hub-and-spoke frequencies which played so large a part in the study's calculations has been an important

The epidemic of delays which pervades the airline industry seems actually to have imposed significant opportunity costs, not benefits.

contributor to the congestion and delays which by 1987 had become a matter of widespread concern. While reducing the time interval between published departure times, the increased hub-and-spoke frequencies have increased the actual delay time at the gate, and in runway queues—a form of lost time that is especially costly to business traveler productivity.¹²³

In 1988, many airlines amended their schedules to incorporate anticipated delays. Initially, this brought an “improvement” in on-time performance by airlines as measured by the FAA (which counts only non-mechanical delays of more than 15 minutes). Despite this creative accounting methodology, delay figures in late 1988 were significantly higher than the year before.¹²⁴ Moreover, delays for the first nine months of 1989 were 22 percent higher than the same period the preceding year.¹²⁵

Note too, that even accounting for lost time, for which there is some equivalent dollar measure, we do not take into account the other, less measurable, costs to society of deregulation. The aggravation and anxiety many travelers suffer because of delays, congestion, and a narrower margin of safety cannot easily be calculated. The Brookings study in fact explicitly omitted the psychic costs to the actual business traveler; their measure encompasses only the monetary “savings” to the *businesses* which employ the increasingly harried travelers.¹²⁶

The Emerging Oligopoly

The price benefits many consumers enjoyed under deregulation were a short-term phenomenon.¹²⁷ As noted above, the trend under airline deregulation seems to be toward an oligopoly of megacarriers. Prices fell sharply during the first several years of deregulation, a reflection of the downward pricing spiral of head-to-head, destructive competition. As carriers became adept at seizing monopoly market opportunities by merging (there were a rash of them in 1985-86) and creating hub dominance, and as weaker rivals dropped from the skies into bankruptcy, prices began to surge upward. Since the beginning of 1988, coach fares in many markets have increased by more than 50 percent.¹²⁸ Between September 1988 and February 1989, the largest carriers announced four fare increases, and several more since Eastern's bankruptcy in March 1989.¹²⁹

The data on revenue per passenger mile for 1989 imply an estimated rise in inflation-adjusted yields of .94 percent for the year. At the same time real fuel prices rose by 7.74 percent, and the fuel share of costs was about 14.5 percent. Thus, adjusting for fuel price increases puts the decrease in fuel-adjusted real yields at .17 percent.¹³⁰ Since, as we saw above, real fares net of fuel trended downward prior to deregulation at 2.7 percent a year, and consumers in 1988 paid the same real yield net-of-fuel they would have paid had the pre-deregulation trend continued, it follows that *in 1989 consumers are estimated to be paying roughly 2.6 percent more than they would be paying under the pre-deregulation trend per mile* (and thus anywhere from 8-33 percent

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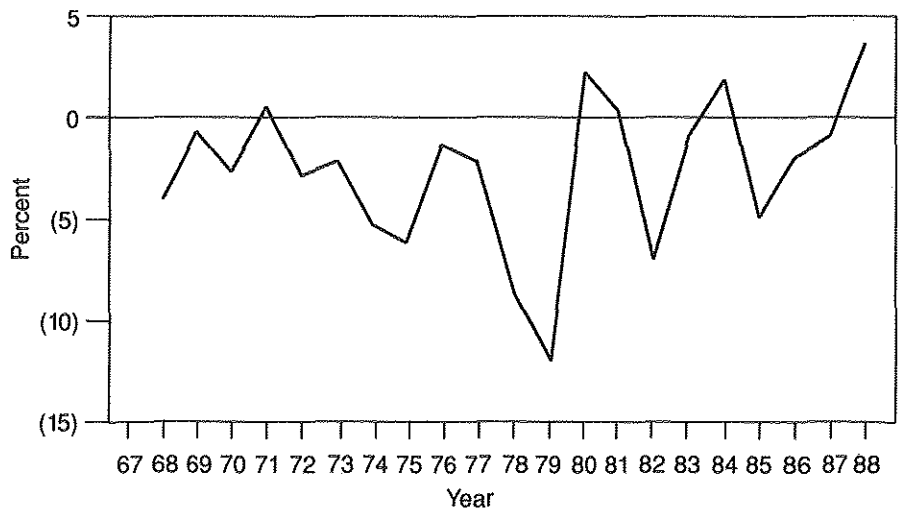
Before deregulation, real yields were decelerating slightly (but not significantly). Deregulation—after a one-time drop in the rate of change—has imparted a significant upward trend to the series, with the percentage increase in yields going up by .84 percent each year after deregulation, instead of falling by .13 percent as was true prior to deregulation.

more per trip, given the range of estimates for the effect of deregulation on circuitry).

Even without the estimated 1989 data, the effect of consolidation in the industry shows up in the behavior of the annual percentage change in fuel-adjusted real yields before and after deregulation, graphed in Figure 5. Before deregulation, real yields were decelerating slightly (but not significantly). Deregulation—after a one-time drop in the rate of change—has imparted a significant upward trend to the series, with the percentage increase in yields going up by .84 percent each year after deregulation, instead of falling by .13 percent as was true prior to deregulation.¹³¹

In the 1990s, the principal opportunities for low prices will be for discretionary travelers taking one-stop flights (via hubs) between large cities at off-peak times.¹³² But the *average* air passenger in 1989 is paying roughly 4.6 percent more per mile than he/she would have paid without deregulation, and the differential is growing; they are flying more miles than they would have flown prior to deregulation; they are flying in fare categories with more restrictions; and they seem to be experiencing more actual delays than they would have prior to deregulation. In short, they are paying more and enjoying it less. In addition, as the next section argues, service has deteriorated along many dimensions.

Figure 5
Percent Change in Real Fuel-Adjusted Fare (1967-88)



Source: Air Transport Association and author's calculations

Service

Small Community Service

While deregulation has created a class of beneficiaries, consumers in small towns and rural communities are not among them. Today, in many instances, they pay much higher prices for poorer service.¹³³

Transportation deregulation has meant isolation for many of America's rural communities. With the elimination of entry and exit regulation, airlines have been free to reduce their level of service to less lucrative communities, and focus their energies and equipment on more profitable market opportunities.¹³⁴ The result of airline deregulation "is that many small communities have experienced a drastic reduction or deterioration in air service."¹³⁵

In the first year of deregulation, 260 cities suffered a deterioration in air service, a disproportionate number of them being small towns.¹³⁶ Seventy of the communities which were receiving some service lost all of it.¹³⁷ In the first two years of deregulation, more than 100 communities lost all scheduled service.¹³⁸

Professors Stephenson and Beier note that "deregulation has accelerated the withdrawal from smaller communities and . . . there has been a concomitant reduction in the frequency of direct flights in those markets."¹³⁹ This is indeed a surprising consequence of deregulation, since section 419 of the Airline Deregulation Act of 1978 provided for a ten year program of federal subsidies in an attempt to preserve essential air service to small communities.

Alfred Kahn insists that small communities have not suffered under deregulation. He points out that not a single community receiving certificated¹⁴⁰ service in 1978 has lost it.¹⁴¹ True, the Essential Air Services (EAS) program has assured subsidies to these points, although the Department of Transportation has recently announced its intention to drop a number of these cities from the EAS program.¹⁴² But in fact, the existence of the subsidies itself mercifully dulls the impact of deregulation, which would likely deprive most of these communities of all service. Cities not previously certificated were ineligible for the subsidies. Hence, the program may have hastened abandonment of the small towns served by non-certificated commuter airlines, for as the large carriers left the small cities for which they held operating authority, for denser markets, the commuter airlines shifted their operations over to take advantage of the new subsidies, exiting towns not eligible for them.

In many small towns, the larger airlines have disappeared, to be replaced by smaller commuter carriers, offering inferior levels of comfort, convenience, and safety. Small towns have seen a reduction in flights to all but medium and large hub cities.¹⁴³ Between 1977 and 1984 flights between small hubs declined 2.9 percent, flights between small and non-hub cities fell 16.9 percent, and flights between non-hub cities dropped 6.9 percent.¹⁴⁴

Moreover, the transportation network is shrinking. Of the 515 non-hub communities receiving air service in 1978, by 1987, 313 (60.8

Transportation deregulation has meant isolation for many of America's rural communities.

Paradoxically, the nation's transportation system is shrinking at a time when its population is increasing.

percent) experienced declines in flight frequency; 144 (28 percent) lost all service, and only 32 (6.2 percent) enjoyed the initiation of new service.¹⁴⁵ In 1978, non-hubs accounted for 23 percent of all departures; in 1987, they were responsible for only 16 percent. In 1978, non-hubs had 29,543 flights a week; in 1987, the number of flights per week had fallen slightly, to 29,271.¹⁴⁶ Clearly, there has been a qualitative deterioration of service for small communities.¹⁴⁷ With the use of smaller aircraft, some communities enjoy more frequent departures, but suffer a decrease in the number of seats.¹⁴⁸ By 1987, seats per week in flights from smaller communities had dropped 17.4 percent, reflecting the departure of pre-deregulation jet aircraft, and their replacement with post-deregulation turboprop aircraft.¹⁴⁹ Paradoxically, the nation's transportation system is shrinking at a time when its population is increasing.

Many passengers complain that the smaller unpressurized aircraft used by the commuter airlines are less comfortable.¹⁵⁰ Passengers also appear to be less satisfied with the service schedules and flight delays of commuter airlines.¹⁵¹ They are certainly less safe. Depending upon how it is measured, commuter airlines have a safety record of between 3 and 37 times worse than established jet airlines.¹⁵² Author John Nance summarized the reasons for the deterioration of safety resulting from the substitution of inferior commuter carrier service for scheduled airlines:

The aircraft [that commuter airlines] fly are usually less sophisticated, largely unpressurized, and much smaller than main-stream jetliners. Many are devoid of not only rest rooms, they are also devoid of radar, devoid of decent cockpit communications, devoid of sophisticated flight instruments, devoid of those elements that are part of the safety buffer which all of us as Americans have come to expect of our air transportation system, whether we are boarding in a rural area or not.

In addition [most] of these aircraft . . . fly at altitudes most vulnerable to weather hazards and potential mid-air collisions. They are maintained by less sophisticated maintenance departments, they are flown by less experienced pilots, usually the first airline job of their career.¹⁵³

Service in small communities is also highly unstable. Service is often suspended until a replacement can be found for carriers who have fallen into the abyss of bankruptcy.¹⁵⁴ Even deregulation proponent Thomas Gale Moore admits that 40 percent of small communities have suffered both a loss of air service and a disproportionate increase in ticket prices since deregulation began.¹⁵⁵ Similarly, Professor Addus observes that "[a]s a result of airline deregulation . . . fares for traveling between small points have increased rapidly; and commuter air carrier fares are reported to be particularly high in most cases."¹⁵⁶ Assessing the quantitative and qualitative impacts, it has been noted that "smaller communities are receiving markedly worse air service than existed prior to deregulation."¹⁵⁷

The loss of service has an unhealthy ripple effect throughout the economy of each of these communities. As one commentator has noted, "Besides increasing transportation costs for companies already doing business in many small communities, the impact of deregulation is decreasing the attractiveness of locating new businesses in these communities."¹⁵⁸ A survey of executives of the 500 largest American corporations reveals that 80 percent would not locate in an area which did not have reasonably available scheduled airline service.¹⁵⁹

Big Community Service

Not only has airline service into and out of small towns deteriorated, but the national system of air travel appears to have declined significantly in quality from the high levels enjoyed prior to deregulation. Even travelers who can get a super-saver fare find that the product they buy today is inferior to that which they could purchase before deregulation. Again, Alfred Kahn gives us "before" and "after" snapshots. Testifying before the House Budget Committee in 1977, Kahn summarized the state of the airline industry prior to deregulation as follows:

[T]he industry has under regulation experienced a very satisfactory growth. I don't think it can be denied that airline service has been widely extended, that the quality is good, and it is a matter of historical fact that the real price of airline service has declined in the last four decades, and that is a very satisfactory record.¹⁶⁰

Contrast that with Kahn's observations on the nature of airline service ten years later:

The quality of the air travel experience has, however, clearly deteriorated—congestion, delays, and customer complaints have increased sharply in recent years—and deregulation bears a large part of the responsibility.¹⁶¹

On a more popular level, a recent editorial in the *Washington Post* summed up what many firmly perceive to be the results of deregulation: "Airline Service Has Gone to Hell."¹⁶²

Flying has become a rather unpleasant experience. The planes are filthy, delayed, cancelled, and overbooked, our luggage disappears, and the food is processed cardboard. Chronic delays, missed connections, near misses and circuitous routing all are products of hub-and-spoking, adopted by every major airline. Too often, we find ourselves stranded in airports or imprisoned in aircraft, waiting endlessly to get to our destinations. Hub and spoking was pioneered, for *packages*, by Federal Express. The human beings who have been subjected to it since deregulation, however, are much less enthusiastic about it than these inanimate objects changing planes at Memphis every night, who are never heard to complain.

A recent survey of consumers reveals that almost 50 percent said that airline service had declined since deregulation; less than 20 percent said service had improved. Among the complaints: late departures, crowded seating, long lines at check-in, unappetizing food, overbooked aircraft, and an unacceptably long wait for baggage.¹⁶³ Another survey, this one

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Without government oversight, airlines freely engage in imaginative forms of consumer fraud, including bait-and-switch advertising, deliberate overbooking, unrealistic scheduling, and demand based flight cancellations.

of 15,000 frequent flyers, found even more negative attitudes on the impact of deregulation. Sixty-eight percent said that deregulated air service was "less convenient and enjoyable", while only 19 percent thought it more convenient and enjoyable.¹⁶⁴ Still another survey, this one of 461 members of the Executive Committee (a group of corporate presidents and chief executives), revealed that 36 percent had lost job efficiency because of air travel delays.¹⁶⁵ Many said they took the precaution of arriving in a city on the night before an appointment rather than risk flight delays or cancellations, thereby saddling their firms with the cost of a hotel room.

These results parallel those of the U.S. Department of Transportation. DOT data reveal that consumer complaints about airline delays, congestion, overbooking, bumping, missed connections, lost baggage, cancellations, and deteriorating food have soared in recent years.¹⁶⁶ Reaching a low of 7,326 in 1983, complaints filed against U.S. airlines with DOT skyrocketed to 40,985 in 1987.¹⁶⁷

Consumer abuses do not stop with miserable service. Under deregulation, management philosophy in the airline industry is dominated by the philosophy of P.T. Barnum: "There's a sucker born every minute." Without government oversight, airlines freely engage in imaginative forms of consumer fraud, including bait-and-switch advertising, deliberate overbooking, unrealistic scheduling, and demand based flight cancellations.¹⁶⁸

Why has the unregulated market not corrected this deterioration in service? Some have suggested that service deterioration is attributable to the decline in profitability of firms caused by the "destructive competition" unleashed by deregulation.¹⁶⁹ Hence, carriers have not had the resources to staff flights with more flight attendants than the FAA minimum, to staff ticket counters or baggage areas adequately, to provide better food, to avoid deliberate overbooking or unrealistic scheduling, to buy new aircraft or even to clean them properly. While some airlines are worse than others, the decline appears to be nearly universal.

Another explanation of the market's failure may be found in the nature of the item being sold. When a consumer purchases a manufactured product, he can examine it in a retail store before he spends his money, pull it off the shelf and turn it over, and make some assessment of its quality. But when a consumer buys a service, like transportation, its definition beyond a mere description of "the movement of my body from A to B," is more amorphous. He is purchasing a "credence good," a product for which quality is important, but difficult to assess prior to consumption.¹⁷⁰

When booking a flight, most consumers do some price shopping. Where a competitive alternative exists, there has been some measure of price competition under deregulation, and those who price shop usually opt for the lower fare (although as noted above, frequent flyer mileage programs and travel agent commission overrides militate against the lowest price). Travelers who have been through the ordeal of a hub connection may ask for a nonstop if one is available, or a one-

stop, if one is not. Some may also shop for a convenient departure, although published schedules today are unreliable. But beyond that, few consumers ask "(1) what kind of aircraft is being flown, how old is it, and when was it last overhauled and cleaned; (2) how often is this flight late, and by how much, on average; (3) by what percentage of passengers do you usually overbook the flight; (4) what percentage of bags are usually lost on the flight, and if you don't lose them, how long will I have to wait at destination for my bags; (5) how many flight attendants are on board, and will I be offered a magazine, pillow, cup of coffee or bag of peanuts; (6) what's for dinner, and how tasty is it; (7) what's the average wait in the line at the airport; (8) how crowded is the flight and the waiting lounge at the gate; (9) how much knee and leg room do you give me between seats; and (10) how comfortable is the seat?" Because most of these questions are not asked by consumers before they purchase their tickets, the market has not responded to consumer desires for better service.¹⁷¹

Because most questions [concerning the quality of service] are not asked by consumers before they purchase their tickets, the market has not responded to consumer desires for better service.

Safety

Since deregulation, the average age of our nation's aircraft fleet has grown sharply. Expenditures for maintenance and the number of mechanics per aircraft have been reduced. The number of near-misses has soared.

Because of the destructive competition unleashed by deregulation, overall industry financial performance during the first decade of deregulation declined to the point of inadequacy, despite the fact that the recession of the early 1980s abated, and fuel prices fell. Poor or nonexistent profits creates a natural tendency of management to curtail costs. Among those which can be significantly diminished are maintenance costs, including mechanic's wages, spare or replacement parts, and idle aircraft time lost during inspections and maintenance. A decade of economic anemia, quite naturally, deprived carriers of the resources to reequip with new aircraft, or maintain the wide margin of safety the public previously enjoyed. Professor Frederick Thayer reminds us that "safety always has suffered when airlines were largely unregulated."¹⁷²

Since deregulation, the average age of our nation's aircraft fleet has grown sharply (see Chart VII). Expenditures for maintenance and the number of mechanics per aircraft have been reduced. The number of near-misses has soared.

The father of airline deregulation, Alfred Kahn, now admits that the margin of safety has "possibly" narrowed since 1978.¹⁷³ Although fatality statistics mercifully do not yet reflect this diminished margin, every other measure of safety paints a different picture.

In 1987, America endured the largest number of aircraft accidents since 1974.¹⁷⁴ The average age of cockpit crew members is the lowest since deregulation began; there has been a decline in hiring standards and in the duration and quality of training.¹⁷⁵ For example, in 1983, a prospective pilot needed 2,300 hours of flight time and uncorrected 20/20 vision to be hired by one of the major airlines. Today, one needs only 800 hours of flight time and (for all but one airline) correctable vision to be hired by a major carrier, and merely 100 hours to be hired by a commuter carrier. The number of pilots with fewer than 2,000 hours of flight time soared from 2 percent in 1983, to 14 percent in 1988.¹⁷⁶

The economic anemia unleashed by deregulation has caused management to push pilots to fly more hours with less rest. While working longer for less pay may increase productivity, it can induce fatigue, which has a negative impact upon safety. Between 1982 and 1988, fatigue was responsible for two operational errors per week—errors such as pilots falling asleep in the cockpit, landing on the wrong runway, or wandering out of assigned flight paths.¹⁷⁷

Ninety-seven percent of airline pilots believe that deregulation has had an adverse impact on airline safety.¹⁷⁸ Among the problems identified are: "lagging and inadequate maintenance; pressure to avoid delays; lowered hiring and experience standards for new pilots; increased use of waivers and exemptions from safety rules; increased flying hours for pilots; [and] the profusion of new, inexperienced airlines."¹⁷⁹

Legitimate concerns have also been raised over the problem of the age and poor maintenance of jets flown by unhealthy airlines, which

lack the financial resources to reequip with modern aircraft, or properly maintain their aging fleets.¹⁸⁰ This is particularly a concern in the commuter airline industry, plagued by bankruptcies, where used, recycled aircraft dominate the fleets of the smaller carriers.¹⁸¹

The intense competition unleashed by deregulation has deprived many carriers of the resources with which to replace their aging fleets of aircraft. As a consequence, the average age of the industry's jets grew 21 percent since 1979 to 12.53 years in 1988.¹⁸² Today, more than half the 2,767 jets in service are 16 years old or older.¹⁸³ Chart VII provides the average aircraft ages of the ten major carriers.

CHART VII
Airline Fleet Average Ages in Years

Airline	Average
American	9.4
Continental	11.0
Eastern	13.8
Delta	8.7
Northwest	14.1
Pan Am	12.8
TWA	14.3
United	13.6
USAir	9.0
Piedmont	9.0

Source: *Wall Street Journal*, Mar. 31, 1989, at B1.

As aircraft become older, airlines should spend increasing amounts on maintenance each year.¹⁸⁴ But rather than spending more on aircraft maintenance, America's airlines are spending less, while their fleets have grown steadily older. Resources devoted by commercial airlines to aircraft maintenance fell 30 percent during deregulation's first six years.¹⁸⁵ More recent data indicate that airline spending on maintenance fell from nearly 13 percent of operating expenses in 1977, to 8 percent in 1982, but partially recovered to 11 percent in 1988.¹⁸⁶ The survey of commercial airline pilots cited above reveals that almost half believe that their companies defer maintenance for an excessive period of time.¹⁸⁷ As Chart VIII reveals, the number of mechanics per aircraft has declined more than ten percent on average for the major airlines in the past five years:

Ninety-seven percent of airline pilots believe that deregulation has had an adverse impact on airline safety.

CHART VIII**Number of Mechanics Per Aircraft**

<u>Airline</u>	<u>1982</u>	<u>1987</u>
American	16.6	15.6
Continental	14.6	13.0
Delta	21.3	14.9
Eastern	22.1	16.9
Northwest	11.6	12.4
Pan Am	27.4	28.2
Piedmont	13.0	9.7
TWA	30.9	25.7
United	17.8	21.2
USAir	12.4	11.8
AVERAGE	18.77	16.94

Source: *Wall Street Journal*, July 19, 1988, at 25.

Between 1978 and 1987, departures for major airlines increased by 27 percent.¹⁸⁸ With airlines funneling their flights into "hub and choke" bottlenecks, and scheduling takeoffs and landings through a narrow window of time and space, near misses are soaring.¹⁸⁹ Thus, the flight paths of the nation's major airports are heavily congested during peak periods. There were 311 near misses during 1982, 475 in 1983, 589 in 1984, 758 in 1985, 840 in 1986, and 1,058 during 1987.¹⁹⁰ The number of near misses has skyrocketed, both in absolute numbers, and in rates per 100,000 flight hours.¹⁹¹ One out of every five commercial pilots was involved in a near-miss during a recent two-year period, and only 25 percent of those were reported to the FAA.¹⁹²

All of this has placed serious strains on the air traffic control system at a time when it is least capable of handling the surge in demand. In 1981, President Reagan fired 11,000 members of the Professional Air Traffic Controllers Organization (PATCO) for striking, leaving it with only a third of its work force, and the Federal Aviation Administration (FAA) has yet to replace them all.¹⁹³ Not only is the system understaffed, but many airports and navigational facilities are equipped with obsolete and aging equipment. The FAA is reputed to be the largest user of vacuum tubes in the world. Operational errors, or mistakes by controllers, increased by 20 percent during the first half of 1987 over the same period one year earlier.¹⁹⁴

The level of public and media concern over the trimmed margin of safety has turned up the heat on the Federal Aviation Administration to become more vigilant in enforcing its safety regulation mandate, something it was lethargic in doing during the early years of the Reagan Administration. Toward the end of the Reagan Administration, significant fines were levied on the major airlines.¹⁹⁵ The Federal Aviation Administration discovered 63,191 safety violations by airlines in 1987, compared to only 28,864 in 1984.¹⁹⁶ Nonetheless, the FAA recently came under fire in a report prepared by the Office of Technology Assessment (OTA).¹⁹⁷ It found the FAA understaffed in the number of

Not only is the [air traffic control] system understaffed, but many airports and navigational facilities are equipped with obsolete and aging equipment.

inspectors, controllers and technicians it employs, and that it maintains inadequate programs to improve the performance of aircraft crews, air-traffic controllers and mechanics. It urged the FAA to continue surprise inspections, and in particular, to engage in intensive and extensive oversight of the commuter airline industry "during the shakeout expected over the next few years."¹⁹⁸

It also had a few words of criticism for the airline industry. OTA found that although all airlines profess adherence to high safety standards, there are significant variations in corporate cultures and maintenance procedures. Professed adherence to safety "means one thing to a financially well-off airline with an ample number of landing slots at airports, but something else to a financially strapped airline that must choose between spending money on discretionary maintenance on aircraft and buying new slots."¹⁹⁹ OTA concluded that "while airline officials are concerned about safety, financial considerations drive many industry decisions and will continue to do so as strong competition exists among the airlines."²⁰⁰ Further, "many airlines have lowered hiring standards, [and] increased pilot and mechanic duty time."²⁰¹

The economic strains created by the intense price competition unleashed by deregulation have had a deleterious effect upon carrier safety.²⁰² Why then, have fatality levels not reflected the industry's thinner safety margin post-deregulation? There are two reasons. First, the aircraft themselves are over-engineered. Even if maintenance is deferred and a critical system fails, usually a back-up system will fill the void until the plane can land. Even if the plane becomes a convertible, as did the Aloha Airlines 737 in Hawaii, a good pilot can still land it safely. Second, there is a higher level of vigilance in the cockpit than there has ever been. Hub and spoking creates intense congestion, and pilots know if they don't keep a sharp eye out, a near miss could become an actual hit. Moreover, pilots are overwhelmingly concerned about the deterioration of maintenance under deregulation. They watch more carefully for mechanical problems than they ever have. Thus, we have been spared the tragedies that the economic imperatives of deregulation might otherwise suggest.²⁰³ And of course the restoration of monopoly which appears to be an accomplished fact in the industry should ease the pressure to cut corners on safety that stem from destructive competition, as well as allowing for purchases of new jets. But if so, consumers will be paying a tribute to a private monopoly to obtain a level of safety taken for granted prior to 1978.

Hub and spoking creates intense congestion, and pilots know if they don't keep a sharp eye out, a near miss could become an actual hit.

Reregulation: Dare We Speak It?

After a decade of deregulation, it seems clear that many of the essential presumptions advanced by free market economists regarding the nature of an unregulated airline industry have proven wrong. Neither the "traditionalist" expectation (that an absence of economies of size would insure a large number of competitors) nor the non-traditionalist expectation (that markets which were naturally monopolistic or oligopolistic would nevertheless be contestable due to low barriers to entry and an absence of sunk entry costs) has been fulfilled.²⁰⁴

Alfred Kahn has been a poor prophet, but he has become conciliatory about the problems that have emerged under deregulation. To his credit, he has recently admitted that many of the fundamental assumptions upon which deregulation was based . . . were either overstated or erroneous.

The world in which we live has produced an anemic industry of megacarriers providing poor service and highly discriminatory pricing. Of course, the anemic nature of the industry is being palliated with emerging oligopolies and monopolies, and the associated tapping of market power. Potential entry seems to be a weak force for discipline on incumbents due to barriers which are both "natural" (such as the need to sink costs in advertising one's service) and strategic (such as the creation of frequent flyer programs which attach passengers and effectively differentiate the carrier's product). Some barriers have both an "innocent" and strategic component. For instance, hub and spoking may have created social efficiencies despite the enhanced travel circuitry for which it is responsible. However, hub and spoking has an additional value for the incumbent carriers, but not for society, as a deterrent to new entry. Consolidation and associated higher prices may improve the health of the industry, but increasingly will require consumers to forego those deep discounts (except in extremely circumscribed conditions) of which deregulation's proponents have been so proud. In fact, as we have seen, in 1989 consumers are already paying some 2.6 percent more for air travel than they would have paid in 1989 had the pre-deregulation downward trend in real fares continued.

Alfred Kahn has been a poor prophet, but he has become conciliatory about the problems that have emerged under deregulation. To his credit, he has recently admitted that many of the fundamental assumptions upon which deregulation was based (including the nonexistence of economies of scale and scope, as well as the theory of contestability) were either overstated or erroneous.²⁰⁵ He has also said that many of the predictions as to how deregulation would affect the transportation industry, labor, and the public they serve, were overly optimistic.²⁰⁶ Nonetheless, he still maintains that, on balance, airline deregulation has been a success.²⁰⁷

When asked whether he was alarmed at the turmoil in the deregulated skies, Kahn, quite surprisingly, said, "It is what we intended because we knew that competition leads to turmoil, that competition is turmoil, and that if you want predictability and neatness and stability, regulate."²⁰⁸ Perhaps by "turmoil" he meant the weeding out of inefficient operators through a process of social Darwinism. But the destructive competition unleashed by deregulation seems to have slaughtered

both the efficient and inefficient, for it is only the very large and very strong that have survived with any significant market share.

If the choice is between the "turmoil" of the recent past with all its bankruptcies, discrimination and concentration, and "predictability, neatness and stability," certainly the better choice is the latter. But in the real world the task is not so much to choose between economic abstractions but to fashion an enlightened approach to bring about the major attributes of healthy competition (including productivity, efficiency, and a range of price and service options responsive to the demands of consumers), while protecting the public against market failure.

Kahn has, on occasion, admitted that government needs to do more, saying that the problems which have emerged "urgently cry out for at least some government remedies."²⁰⁹ He has called for more stringent antitrust and safety regulation. He has acknowledged a need for more consumer protection and some control over the power of the monopoly railroads. He has even conceded that some sort of pricing regulation may be appropriate to deal with predatory behavior by large firms, and that it may be time to consider price ceilings.²¹⁰ Nonetheless, the transportation industry and the public it serves would have been spared much of the "turmoil" (to use Kahn's word), if the fundamental assumptions upon which the deregulators relied had not proven specious, and had deregulation not been implemented so aggressively.

There are essentially four alternatives for the protection of economic and social values in an important privately owned infrastructure industry like transportation. They are:

1. Heavy Handed Regulation;
2. Regulatory Reform ("Light Handed" Economic Regulation);
3. Economic Deregulation and Antitrust Regulation; or
4. *Laissez faire*.

This writer has consistently maintained that the first alternative can be as debilitating to the infrastructure and the public it serves as the last.²¹¹ The CAB of the early 1970s tended to restrict pricing flexibility and prohibit route rationalization and new entry. Neither rigid governmental control (such as existed at the CAB in the early 1970s) nor anarchy (which we have today) is a desirable alternative. The responsible choice is between alternatives two and three. This author has suggested that alternative two, enlightened regulation, is the better approach.²¹² Kahn prefers alternative three.²¹³

Kahn has suggested, in a number of forums, that antitrust laws are an adequate substitute for economic regulation in protecting the public interest. They are not. Under deregulation, the railroads, airlines, bus and motor carriers have become more highly concentrated than at any time in their history. The urge to merge stems from the destructive competitive environment of deregulation, and the economic anemia created by traffic dilution. Carriers hemorrhaging dollars facing the alternative of a merger or eventual bankruptcy quite logically choose the former.

The task is not so much to choose between economic abstractions but to fashion an enlightened approach to bring about the major attributes of healthy competition . . . while protecting the public against market failure.

Nor is it clear that traditional antitrust remedies are socially desirable in cases, such as air transport, where there are significant real economies of size, scope and density.

Antitrust laws have not been effectively used to deter such consolidations. Although not a single airline merger has been given antitrust immunity under section 414 of the Federal Aviation Act, no one has filed a private antitrust action in opposition. Nor is it clear that traditional antitrust remedies are socially desirable in cases, such as air transport, where there are significant real economies of size, scope and density.

Neither have civil nor criminal antitrust opportunities been employed, more than incidentally, to challenge predatory behavior by larger transportation firms. Contemporary case law on predation generally does not favor the plaintiff.²¹⁴

In addition to the lack of political will exhibited by the U.S. Department of Justice during the last decade to pursue antitrust violations other than price fixing, the disincentives to the use of antitrust by private parties as a civil means of correcting market failure are several, including the high cost and consumption of time in pursuing an antitrust action, the significant evidentiary hurdles, and the fact that contemporary case law is not particularly sympathetic to plaintiffs alleging predation. An aggrieved party stands a better chance of prevailing if he follows on the coat tails of a successful government civil or criminal action, in part because the complex evidentiary record has been assembled. But the lack of contemporary Justice Department enthusiasm for areas of antitrust other than price fixing makes that alternative less feasible. Building such a record from scratch can be extremely expensive. Moreover, criminal antitrust enforcement may be an inappropriate approach for an industry having such significant natural monopoly characteristics and being as susceptible to destructive competition as airlines.

Nor do the antitrust laws provide any protection against pricing or service discrimination. The Robinson-Patman Act prohibits discrimination in the sale of goods, not services.

Hence, antitrust is an inadequate substitute for responsible economic regulation in protecting public interest values of assuring a healthy competitive environment and advancing social objectives which do not find a high priority in a regime of *laissez faire*. Kahn has been critical of what he has referred to as the "ideologues of *laissez faire*."²¹⁵ But because the alternative he proposes is, quite simply, not pragmatically available at this point in our legal history, and probably not desirable even if it were, stripping away economic regulation would inevitably subject the industry and the public it serves to alternative four, or *laissez faire*.

The net result of deregulation is that the five member Civil Aeronautics Board has, in effect, been replaced by the Chief Executive Officers of the largest airlines. If we learned nothing else from the era of the railroad robber barons, we should have learned that the transportation industry has too many social and economic externalities to allow it to be manipulated by a handful of unconstrained monopolists. The quasi-public utility nature of the transportation industry suggests the need for enlightened regulation in the public interest.

The time has come to contemplate rolling back deregulation, reestablishing the appropriate role of government in leveling the playing field, correcting market failure, and protecting those economic and social interests which do not find a high priority in a regime of *laissez faire*.

Enlightened regulation can provide an equitable balance of public interest objectives with market imperatives in those singular cases where the market alone produces socially undesirable results. Ideally it can be designed to steer a course between the Scylla of *laissez faire* and market failure and the Charbydis of heavy-handed regulation.²¹⁶

The quasi-public utility nature of the transportation industry suggests the need for enlightened regulation in the public interest.

Putting the Airlines Back on Course: A Modest Legislative Agenda

To suggest a need for reform of deregulation is not to say that we need to return to the tight-fisted regulatory regime of the early 1970s.²¹⁷ Nor could we, even if we wanted to. The structural changes have been so profound that we cannot restore what was lost when Pandora's box was opened. CAB Chairman Kahn was true to his promise: "We will so scramble the eggs that no one will be able to put them back into their shells again."²¹⁸ But we do need enlightened governmental oversight to correct for market failure and achieve desirable social benefits.

To suggest a need for reform of deregulation is not to say that we need to return to the tight-fisted regulatory regime of the early 1970s.

Congress has already acknowledged the need for reform. The 100th Congress tried to slap on a few band-aids by proposing an air travelers' "Bill of Rights." The bill would have required airlines to publish statistics summarizing their delays, number of passengers bumped, lost bags, and other consumer complaints. This spurred the lethargic DOT to promulgate regulations providing for monthly disclosure of consumer information, and announce the potential sanction of modest penalties for flights cancelled for reasons other than mechanical problems or weather. The Essential Air Service subsidies for small towns have also been extended.

But the larger questions must now be considered. These include: entry, pricing, antitrust, small community access, safety, consumer protection and regulatory reorganization.

Entry

Let us address the most difficult question first—whether entry should be regulated. A good argument could be made that thin air transport markets capable of supporting only a single carrier are in the nature of natural monopolies, and should, like local electric, telephone and gas distribution markets, be limited to but a single regulated firm. Since only one firm can survive, it would be wasteful of society's resources to have two fight it out to the death.

If entry regulation is imposed, monopoly pricing must, of course, be constrained. Hence, rate regulation is essential. But limiting entry can induce lethargy over the long term. To prevent this, the regulatory agency might issue a certificate for a specific term of years, and be willing to replace the incumbent with a more vigorous firm at its end if the incumbent appears not to be as efficient and economical as it might.

For reasons discussed above, spokes between rival carrier hubs may be, oddly enough, natural duopolies. Since only carriers with beyond-segment feed into the city-pair market can ordinarily survive, those without a hub in least at one of the end points will likely fail.

The more difficult question is whether entry should be limited in other markets, and here it is difficult to say. Enhanced competition is undoubtedly good for consumers, at least in the short run, as carriers enter into a competitive war of price discounting. But, as discussed above, because the competition seems to be in the nature of destructive competition, allowing it to go on for any length of time causes carriers

to hemorrhage dollars unduly, slash service, defer maintenance and replacement of aged equipment, and spiral downward into bankruptcy or, as an alternative, merge into larger and larger firms.

Alfred Kahn has suggested that the cabotage laws be repealed, so that foreign airlines can compete in domestic markets. Not only would that reintroduce the problems of destructive competition from which the industry is only now escaping, but it would also create national security concerns. Imagine a world in which there had never been cabotage laws, e.g., suppose the American domestic air passenger or cargo industry had in 1938 been dominated by Lufthansa and Japan Air Lines.

In the same way that local distribution electric power, gas and telephone companies are efficient monopolies, airline hubs provide some system distribution efficiencies and economies of scale, and should therefore be allowed to exist. But megacARRIER domination of multiple hubs reduces the likelihood of new entry and new pricing and service innovations.

One means of enhancing national and city-pair competition while recognizing to some extent the true efficiency advantages associated with hub and spoking might be to impose a limit on the number of hubs a carrier may dominate. Assume, for example, that Congress passed a law prohibiting an airline from dominating more than 60 percent of the gates, landings, takeoffs and passengers at more than a single airport. In other words, it could maintain a monopoly at only one airport. Let us further assume that an airline with a hub monopoly would also be prohibited from having more than 25 percent of the gates, landings, takeoffs and passengers at any other airport.

Several beneficial results would be realized. Carriers would be forced to divest themselves of all hubs but one. Thus, for example, Northwest Airlines (which today dominates the hubs of Minneapolis/St. Paul, Detroit and Memphis), might be split into three carriers: Northwest, hubbed in Minneapolis; Air Michigan, hubbed in Detroit; and Air Memphis, hubbed in Memphis. Similarly, the other megacarriers would likely split or spin off lesser hubs. No longer would the national system be dominated by a handful of gargantuan airlines. And city-pair competition would improve.

Moreover, our Air Memphis might eventually find its growth opportunities on spokes radiating from Memphis saturated. This might encourage expansion into other non-hub markets, thereby restoring some of the non-stop service that deregulation eradicated.

Of course, for the same reasons that price ceilings are imposed upon electric, gas, and telephone monopolies, price ceilings would have to be imposed upon airline monopolies as well—to prohibit the extraction of monopoly rents. Let us address the question of pricing regulation.

Pricing

Free market economists predicted that pricing under deregulation would reflect carrier costs. But rates instead tend to reflect the level of competition in a given market. Many markets are so thin that they can only support a single carrier. As we have seen, today nearly two-thirds

One means of enhancing national and city-pair competition while recognizing to some extent the true efficiency advantages associated with hub and spoking might be to impose a limit on the number of hubs a carrier may dominate.

The inherent tendency of airlines to engage in destructive competition provides a legitimate economic rationale for economic regulation.

of America's city-pair markets are served by but a single airline. Many are in the nature of natural monopolies, for which economic regulation has long been recognized as a legitimate remedy.

Government regulation should be imposed to prohibit the extraction of monopoly or oligopoly rents. An industry-wide mileage-based formula could be devised as a benchmark by which to assess reasonableness of rates, bringing down those which cannot be sustained by a cost justification. Of course, shorter trips have higher per mile costs than longer ones, so the formula would have to reflect that.

Regulation of rates should be imposed only where the airline has a sufficient market share so that it would be in a position to exert market power. Thus, rate review might only be imposed upon complaint of consumers, or in city-pair markets in which the offending airline has more than say, 40 percent of the market (or if you prefer a more scientific measure, an appropriate threshold of the Herfindahl-Hirschman index), and where the rate in question exceeds an industry measure of fully allocated costs plus, say, 15 percent. The burden of proof should be placed upon the airline charging the allegedly excessive rate. Tight time deadlines should be placed upon the parties and the agency in reviewing the rate, and the agency should be given the power to order refunds of excess fares collected, and to order the rate lowered.

The range of rates ought to include not only a ceiling, but also a floor to prohibit predatory pricing, and pricing below fully compensatory levels. Even Alfred Kahn has admitted the propensity of airlines to engage in predatory behavior. As he says, "the airline industry clearly demonstrates the dangers of permitting unrestricted responses by incumbents to counter competitive entry, particularly with selective, pinpointed, or targeted price reductions."²¹⁹ Pricing below costs to drive a competitor out should be circumscribed.

Regulation can protect smaller competitors from the predatory practices of larger rivals trying to drive them out of business. Judicial antitrust remedies ordinarily only award economic compensation to those injured by such anticompetitive conduct, and do not restore the lost competitor to the market. For example, Sir Freddie Laker, victorious in an out of court settlement with predatory defendant aircraft manufacturers and competing airlines, did not reenter the transatlantic market in which he pioneered bargain basement "no frills" service.²²⁰ Thus, consumers' interest in a competitive environment often remains unvindicated by antitrust remedies. In contrast, economic regulation can keep the market flush with small and medium size competitors engaged in a healthy competitive battle, disciplining the costs and prices of their larger rivals.

The inherent tendency of airlines to engage in destructive competition (because of the instantly perishable nature of the produce sold, and the extremely low short-term marginal costs of production) also provides a legitimate economic rationale for economic regulation. Within this "zone of reasonableness" between the aforementioned price ceiling and floor, market forces should establish the rate charged. Carriers with

lower costs or lesser service offerings ought to be able to offer their product to consumers at a relatively lower price.

Price discrimination ought also to be reined in a bit, at least between markets. The Robinson-Patman Act prohibits price discrimination in the sale of goods. In 1914, when the legislation was enacted, there was little perceived need for a prohibition against price discrimination in the sale of services, for the service sector was then a relatively small segment of the American economy, and price discrimination in the infrastructure industries was circumscribed by the regulatory agencies.

But things today are quite different. The regulatory agencies which were established to prohibit discrimination no longer do. And today we have an economy dominated by the service sector. It is time to consider either amending the Robinson-Patman Act to prohibit discrimination in the sale of services, or reestablishing the regulatory mechanism for its prohibition.

While carriers should be free to manage yield to fill seats which otherwise might fly empty, offering a range of fares to lure customers who might not otherwise fly, discrimination between markets based on the existence of competitive alternatives, rather than costs, should be circumscribed.

Today, a passenger flying from Washington to Cleveland via Detroit pays less than a passenger seated beside him flying from Washington to Detroit.²²¹ The first rate regulation provisions ever promulgated by Congress in 1887 included a prohibition against a railroad charging a customer more for a shorter haul than a longer haul on the same line in the same direction. Such a provision would do much to cure the inverse relation between price and costs in the airline industry.

Antitrust

Related to Robinson-Patman and other pricing questions are the myriad of antitrust issues which have arisen under deregulation. As noted earlier, in the decade following promulgation of the Airline Deregulation Act of 1978, there were 51 airline mergers.²²² In three and one half years, the Department of Transportation approved each and every one of the 21 mergers which were submitted to it.

The legislation governing airline mergers and acquisitions should be amended so as to make them more difficult for competing carriers to consummate. Statutory criteria for mergers should be tightened to emphasize antitrust concerns. Of course, prohibitions against monopoly pricing will do much to ameliorate the problems created by concentration.

The dominance of incumbents is facilitated not only by their stranglehold over the "fortress hubs," but also by the consumer loyalty generated by the free mileage awarded under frequent flyer programs. We should consider a tax on such benefits to discourage their use. As Borenstein has noted, the tax-free nature of the frequent flyer benefit tends to discourage monitoring by the principal (employer) of the agent (the employee receiving benefits). In effect, businesses pay higher fares than they otherwise would and are reimbursed by the taxpayers.²²³

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One public policy objective that may be enhanced by economic regulation is an equitable geographical distribution of the opportunity to participate in economic growth.

Divestiture of Computer Reservations Systems (CRS) owned by the airlines should also be considered, for opportunities for anti-competitive conduct of their owners are, quite simply, excessively abundant.

Small Community Access

Even if perfect competition existed in transportation (and it does not), society frequently views the achievement of objectives other than allocative efficiency as warranting some sacrifice of the latter. One public policy objective that may be enhanced by economic regulation is an equitable geographical distribution of the opportunity to participate in economic growth. Traditionally, prohibitions against rate discrimination required carriers to price their services to small communities at or just below cost, facilitating economic growth in all geographic regions. Small towns and rural communities are served by fewer competitors than urban centers, and in the absence of regulation are more prone to monopolistic exploitation.

Adam Smith recognized that the width and breadth of the market—the crucial engine for extending the division of labor in his vision—is determined in part by the price and availability of transportation services.²²⁴ The transportation infrastructure is the foundation upon which the rest of commerce is built. Without adequate and reasonably priced transportation services, small towns and rural communities cannot sustain economic growth. In order to have a healthy economy, all communities, large and small, must have non-discriminatory access to the transportation infrastructure. If a small town does not enjoy adequate transportation service at a fair price, it will be isolated from the mainstream of commerce, and wither on the vine.

Transportation firms are the veins and arteries through which commerce flows. This gives them the leverage to facilitate or impede commerce, and makes their rate and service offerings critically important to all who require access to the market for the sale of their products.

If we are to abandon any notion of entry regulation and cross-subsidization at the federal level (and perhaps we should not), then government subsidies for small community access should be not only continued, but expanded, to provide improved airline service. If the pragmatic political realities of budget deficits preclude sufficient subsidies for air service, then entry and exit regulation should be reconsidered. Establishing a service territory for which a carrier is responsible can be an effective mechanism for assuring adequate service to small towns and rural communities.

Consumer Protection

Prior to 1985, the Civil Aeronautics Board provided comprehensive oversight of consumer related airline policies.²²⁵ Today, government regulations govern only two areas of potential abuse: overbooking and lost or damaged baggage. In all other areas of consumer liability, the rules have unilaterally been dictated by the airlines themselves. The

judiciary has been less than enthusiastic about picking up the pieces of the shattered regulatory regime of consumer protection.²²⁶

Deliberate overbooking is a practice which has received the federal government's seal of approval. Carriers routinely book reservations for more passengers than they have seats, assuming some will be "no shows." When there are more passengers than seats, airlines are obliged to ask for volunteers, sometimes bribing them with free flight coupons. If the airline cannot coerce a sufficient number of passengers to surrender their seats voluntarily, and it cannot get passengers with confirmed reservations to their destinations within an hour of the schedule, it is obliged to fly them to their destinations as quickly as possible and pay them a penalty of the one-way ticket price, to a maximum of \$200. If the airline cannot get bumped passengers to their destinations within two hours, it must pay them twice that. To qualify, the passenger must have checked in on time, have a confirmed reservation, be flying on an aircraft seating 60 or more passengers on a domestic trip, and the denied boarding must be due exclusively to overbooking.²²⁷

It seems highly unfair for the airline to sell a consumer a non-refundable ticket when the "confirmed reservation" given the passenger turns out not to be confirmed at all. Airlines deliberately sell more tickets than they have seats, and the "confirmed reservation" can be yanked away at will, leaving the consumer stranded. If the airlines are concerned about passengers booking more reservations than they use, let them insist that passengers guarantee their reservations with a credit card, as do hotels. Only if the reservation is guaranteed should the ticket be nonrefundable.

As to lost or damaged luggage, government regulations place a ceiling on liability on domestic flights of \$1,250 per person. Treaties limit liability on international flights to \$20 per kilogram.²²⁸ All other liability rules of airlines are required to be set forth in their unilateral "Conditions of Contract of Carriage." Many of these rules are patently unfair to consumers.

For example, while some airlines allow passengers up to 45 days to file a complaint regarding lost or damaged luggage, others give a passenger only a few hours from landing.²²⁹ Airlines can cancel reservations for any passenger who fails to check in within ten minutes of takeoff.²³⁰

With hub-and-spoke systems becoming the dominant means of air transport, many consumers find that delays may cause them to miss their hub connections. Even when the delay is the fault of the airline (say, because of a mechanical breakdown or a late crew), several carriers deny liability for any additional meals or hotel bills the passenger may incur as a result of the missed connection. If the delay is the airline's fault, most will arrange alternative means of transport to destination. Most will not do so if the delay is due to weather or air traffic.²³¹

Several other areas exist where governmental oversight would be prudent. For example, penalties for market inspired flight cancellations should be increased, and made mandatory. Carrier liability for missed connections resulting from flight delays should be imposed. Travel

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agent commission overrides, which provide an incentive for consumer fraud, should be outlawed. Width across seats, and distance between them should be designated so that an average-sized person can enjoy a comfortable flight on a long trip without having his knees jammed against the seat in front of him. The market seems capable only of providing sardine-can travel.

Moreover, the government must intervene to protect consumers against false and misleading advertising. "Bait and switch" is a pervasive problem: an airline advertises, say, a \$199 fare to Orlando; when the consumer calls she is informed that those seats are sold, but there is a bargain immediate-purchase, non-refundable, Saturday-stay-over seat available for \$279. The \$199 fare might have been available for only a very few seats. And the fine print often fails to explain the restrictions adequately. Consumer protection demands sensible advertising regulation. Tighter airline advertising regulation has been endorsed by the Attorneys General of more than 40 states.²³² Ample jurisdiction exists under section 411 of the Federal Aviation Act to protect the public against unfair and deceptive competitive practices, if only the U.S. Department of Transportation would exercise it.

Safety

An important public policy objective which can be promoted by regulation is enhanced margins of safety. Regulation is superior to judicially-ordained tort damage awards for injuries, in that however well money can ease the pain of injury, economic compensation for injury frequently cannot restore health, and can never restore life. In contrast, regulation attempts to prevent injuries before they occur, thereby protecting the innocent from harm.

In order to deal with the problems of safety which have arisen under deregulation, several things need to be done. As to airlines, the air traffic control system should be refurbished. The Federal Aviation Administration needs to re-staff the traffic control system beyond the pre-PATCO strike levels of 1981. FAA equipment needs to be updated and upgraded.

Congress should devote sufficient resources to building new airports and expanding existing ones. No new major airport has been built in the United States since 1974, when Dallas/Ft. Worth International Airport was constructed. Since then, national air traffic has doubled and will double again by the end of the century. Yet only two new major airports are on the drawing board—that of Denver and Austin. Local opposition (the not-in-my-back-yard syndrome) to noise, congestion, and pollution exists to throw a monkey wrench in new airport expansion and development. Perhaps it is time to consider federal legislation preempting local opposition to regional airport construction. (Of course, compensation for legitimate loss of property values should be paid.)

Congestion at hub airports can be reduced by regulating landings and takeoffs and by imposing peak period landing fees.²³³ This will help flatten out usage somewhat, and reduce congestion. Landing fees

should also reflect the opportunity costs of delay, which would suggest that a higher landing fee should be imposed upon small aircraft, and a smaller fee imposed upon larger aircraft, thereby favoring the larger number of human users of finite public resources.

Enhanced safety requires that more attention be paid to the economic health of firms, for economic anemia seems to be associated with deferred maintenance. But not only are economically unhealthy carriers suspect. Those purchased by corporate raiders are also of concern. For example, the Consumer Federation of America has accused Carl Icahn of using TWA's profits to finance his raids on other firms, rather than plough back profits in badly needed new aircraft.²³⁴ Frank Lorenzo has also stripped Continental and Eastern of essential assets.²³⁵

Hence, the regulation of carrier fitness in licensing should be taken more seriously by the U.S. Department of Transportation. The Federal Aviation Administration should keep a keener eye on aircraft and pilot qualifications. If that proves inadequate to increase the margin of safety over the long term, then more comprehensive regulation which enhances the economic health of the industry may be required. It is doubtful that safety can ever be decoupled from economic health.

Much of what is wrong with deregulation is the fault of the agencies which have implemented it, and the zeal with which they embraced laissez faire ideology.

A New Independent Federal Transportation Commission

Much of what is wrong with deregulation is the fault of the agencies which have implemented it, and the zeal with which they embraced *laissez faire* ideology. The statutes which ordained deregulation called for gradual entry and pricing liberalization. Yet their interpretation by the regulatory agencies has bordered on the irresponsible. Much of that is attributable to White House dominance, and its strong ideological agenda.

We should have expected White House domination of the DOT, for it is, after all, an executive branch agency. Hence, Congress was asking for trouble when it transferred the remaining regulatory responsibilities of the CAB upon its "sunset" on December 31, 1984, to the DOT.²³⁶

Many of the critics of regulatory commissions allege that after the initial euphoria of public interest protection wears off in the first decade or two of their existence, they tend to favor the interests of the industry they regulate (they become "captured"). After all, the industry is the one constituency regularly before the agency, year after year, pleading its case, looking to the agency for relief, while other groups may come and go. The regulated industry is also the best financed of the constituencies which will appear before the agency.

A related problem is that of the "revolving door," whereby former Commissioners are recruited by the industry to serve as executive officers. Ironically, this phenomenon appears under deregulation as well. For example, Alfred Kahn, Mike Levine and Phil Bakes of the deregulationist CAB and Elliot Seiden of the Reagan Justice Department's Antitrust Division subsequently joined Frank Lorenzo's Texas Air empire.

In the final analysis, there are important regulatory functions to be performed by government, and we have to create a mechanism to

In order to avoid the problem of "capture," the regulatory functions pertaining to all of transportation . . . should be swept into a new Federal Transportation Commission, an independent federal agency outside the executive branch.

perform them without undue political and ideological bias. In order to avoid the problem of "capture," the regulatory functions pertaining to all of transportation (i.e., those functions formerly carried out by the CAB and now the DOT for airlines, by the ICC for rail and motor carriers, by the Federal Maritime Commission for ocean carriers, and by the Federal Energy Regulatory Commission for pipelines) should be swept into a new *Federal Transportation Commission*, an independent federal agency outside the executive branch. An agency with jurisdiction over airlines, motor carriers, bus companies, pipelines, railroads, and domestic and international water carriers would be difficult to capture by any single firm or transport mode.

To enhance its independence, the new Federal Transportation Commission should be comprised of at least seven members appointed by the President, with the advice and consent of the Senate, to serve staggered, six year terms. They should be selected from a list of candidates prepared by a blue ribbon panel of industry, labor, and consumer members appointed by Senate and the President, thereby enhancing the Constitutional mandate of legislative "advice and consent." By calling upon an independent body to recommend potential candidates for nomination, we can reduce the propensity of some Presidents to fill Commissions with political cronies.

The skills and competence of the men and women who serve will, in the final analysis, determine how well broader social needs are fulfilled. Potential Commissioners should be selected on the basis of their competence, skill and neutrality on the issues they will confront. They must have a deep and abiding respect for the law and the supremacy of the legislative branch in defining the perimeters within which they shall administer the regulatory function. It is not just the substantive law, which defines the agency's jurisdictional limits, to which there must be fidelity, but also the procedural and evidentiary requirements of due process, for the agency will inevitably be quasi-judicial in nature. It must be filled with individuals who possess judicial temperament. As Joseph Eastman, Franklin Roosevelt's Transportation Coordinator, said:

The important qualifications [of a Commissioner] are ability to grasp and comprehend facts quickly, and to consider them in their relation to the law logically and with an open mind. Zealots, evangelists, and crusaders have their value before an administrative tribunal, but not on it.²³⁷

It is a fact of life that the legislation must be drawn broadly, not only because such statutes cannot be drafted with perfect precision (because of both problems of practical politics and the limitations of the English language), but also because some flexibility is desirable to enable the Commission to address new challenges as they arise. Nevertheless, Congress should make more of an effort to tighten the agency's discretion, and identify more precisely its jurisdictional perimeters. Congressional committees should perform more rigorous oversight hearings more often, raking appointed officials over the coals when they stray beyond Congressional intent. The judiciary should also take a "hard

look” at the orders and rules emanating from regulatory agencies, and strike down more on grounds that they are *ultra vires*. Legislative and judicial “checks and balances” should be employed to pull the agency to the center, away from the extremes of either heavy-handed regulation, or rampant deregulation.

In order to avoid political bias, no more than a simple majority of commissioners should be members of a single political party. In order to alleviate the likelihood of White House domination of the agency’s affairs, the Commission should be free to elect its own Chairman. In order to avoid pro-industry bias, strict restrictions should be placed on the ability of its members to work for the regulated industry when they leave the Commission.

Improved process will vastly improve the regulatory function. In fact, had a neutral and responsible regulatory agency without a strong ideological agenda implemented deregulation during the past decade, it is quite likely that the results would have been significantly less onerous.

But suggesting that there is an appropriate role for a regulatory agency should not be construed to mean that we need to return to the rigid regulatory regime of the late 1960s and early 1970s. The period of modest regulatory reform of 1976-78 proved that both the industry and the public it serves can benefit significantly from enlightened regulation. Allowing carriers modest pricing flexibility so they could tap the elasticities of demand and fill capacity proved to be a win-win situation for both the airlines and consumers.

Moreover, not even the most omniscient regulatory commission can make all the decisions concerning levels of production and pricing. We leave that to individual, privately-owned firms, with regulatory bodies identifying the broad parameters within which the firms may lawfully operate. Regulation at the margins, while allowing privately owned firms to satiate consumer demands, is all that is required. Government should set the perimeters, not the particulars, of lawful behavior.

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Conclusions

During the 1980s, deregulation swept not only through transportation,²³⁸ but through the other infrastructure industries as well—telecommunications, broadcasting, cable television, banking, oil and gas, securities, and to a lesser extent, electric utilities. But the high-water mark of deregulation as a blossoming political movement seems to be behind us, having peaked late in the Carter and early in the Reagan Administrations. The flower has lost its bloom. As the American people have had more experience with the grand experiment in deregulation, they have become less enamored of it.

The experience with air-line deregulation—the stark juxtaposition between what was promised and what was delivered—ought to give future deregulators pause.

Recently, the *Wall Street Journal* asked Americans to identify the industries in which they had most, or least, confidence. The largest number by far, 43 percent, said they had no confidence in the airline industry. The disapproval rating for the industries that followed—insurance (27 percent), banking (23 percent), oil and gas (22 percent), and stockholders (22 percent)—was not nearly as high as that for airlines.²³⁹ Congress has not passed a major deregulation bill in recent years, and is considering various reregulation proposals for a number of industries too hastily deregulated, including banking and securities, and for those transport modes which have experienced the most comprehensive deregulation—railroads and airlines.

The experience with airline deregulation—the stark juxtaposition between what was promised and what was delivered—ought to give future deregulators pause. Neither traditionalist predictions of many competing carriers nor non-traditionalist predictions of a few competitors constrained by the threat of entry to conduct themselves like the textbook perfect competitors have been borne out.

In the early years of deregulation, new low cost airlines emerged to rival the established carriers. But where have all the flowers gone? Where are the Donald Burrs and the Sir Freddie Lakers today, with their discount prices and spartan service? The spartan service survived, but the new entrepreneurs have fled a ruthlessly predatory economic environment, never to return, and taken their discounts with them. We are left with an oligopoly of megacarriers and, in many regional and city-pair markets, a shared monopoly. With the creation of frequent flyer programs, travel agent commission overrides, and megacARRIER dominance of fortress hubs and computer reservations systems, new entry is today highly unlikely. Moreover, the threat of new entry has proven to be a toothless deterrent to the unrestrained exercise of market power. The predictable result is that prices are now above where they would have been had the pre-deregulation downward trend continued—some 2.6 percent higher in 1989, per mile (and perhaps as much as 33 percent greater per trip, given the greater circuitry for which deregulation is responsible), with the differential projected to grow in coming years. The early gains in the form of lower fares had been completely dissipated by 1988.

The market for air transport services is not perfectly competitive. Significant economies of scale, scope, and density do exist. Nor is it

contestable. Economic barriers to new entry are formidable. Oligopolies and monopolies with effective market power have resulted.

Another result of deregulation is that the industry is saddling itself with enormous debt and excess fleet capacity. During the first decade of deregulation, the industry was so terribly anemic that few airlines could afford to reequip with new equipment, despite the aging of their fleets. Staring bankruptcy in the face, many found mergers a means of enhancing size and scope, and thereby profitability. The creation of fortress hubs also gave them market power—the power to raise ticket prices.

Now that airlines are becoming money machines, they have become targets for leveraged buy-outs (LBOs). Alfred Checchi recently purchased Northwest for \$4 billion. United, Delta and USAir may also be targets.

Prior LBOs reveal that corporate raiders leverage airlines to the teeth to pay for their acquisitions. Frank Lorenzo gobbled up Continental and Eastern. Corporate raider Carl Icahn grabbed TWA and Ozark. Both added millions in indebtedness to these once financially secure airlines, and stripped them of assets. Before Eastern fell into bankruptcy, it carried \$2.5 billion in long-term debt; its debt service was a crushing \$575 million. TWA carries \$2.5 billion in debt²⁴⁰ and lease obligations, and has a negative net worth of \$30 million.²⁴¹

Not only are LBOs burying airlines in debt, new aircraft acquisitions are as well. Media attention directed at geriatric jets—the peeling skin and the exploding doors—has prompted airlines to order huge new fleets of aircraft. Earlier this year, United placed a record \$15.7 billion order for 370 Boeing 737s and 757s (180 firm orders, and 190 on option). American has 259 aircraft on order and 302 on option. Delta has options or orders for 215 jets, including 40 giant MD-11s. Texas Air placed an order for 100 jets—50 firm and 50 on option. Northwest has placed \$8.4 billion in orders and options for 140 jets. Even miserly Carl Icahn, whose TWA was the oldest fleet in the industry, placed an order for a few Airbuses. The industry has placed orders or options for \$130 billion in new aircraft.

Adding new jets will mercifully reduce the age of the nation's fleet. That will be a welcome blessing for the margin of safety. But it saddles the industry with even more debt.

Moreover, unlike the days before deregulation when airlines actually owned most of their aircraft, today they lease them. For example, American Airlines owns only about a third of its 476 aircraft outright. Even solid carriers like Delta have sold large numbers of aircraft only to lease them back. This increases debt, but decreases value.

Lease obligations usually don't show up on balance sheets on debt, but, like accumulated frequent flyer mileage, they should. Including it reveals that the industry's debt to equity ratio today is significantly worse than it was in the mid-1980s, although the industry's performance has much improved since then. Whether purchased outright or leased, new aircraft not only impose tremendous debt, but they also flood the market with capacity.

Now that airlines are becoming money machines, they have become targets for leveraged buy-outs.

The time has come to take a fresh look at the mess that deregulation has made, and devise an enlightened response. . . The real choice is between imperfect regulation and imperfect competition.

So now the wild cards—fuel prices, aerial terrorism or recession. The former will raise industry costs, as they did in the 1970s and 1980s; the latter two will curtail demand. If recession rears its ugly head, watch out.

Few industries are as susceptible to downward turns in the economy as are airlines. Recessions prompt travelers to cancel their vacations, and businessmen to tighten their belts. Passenger demand plummets.

Unfilled seats on a scheduled flight are in the nature of an instantly perishable commodity; short term marginal costs (another meal and a few more drops of fuel) are nil. So during slack demand periods, ticket prices spiral downward.

Couple a prolonged recession with excess capacity and high debt service and we will see another round of bankruptcies and mergers like the one we endured in the early 1980s. When the dust settles, the industry will be even more concentrated than it is now. Fewer and larger megacarriers will dominate the national landscape, and raise prices more sharply.

The time has come to take a fresh look at the mess that deregulation has made, and devise an enlightened response. Yet, the debate over what should be done with an infrastructure industry so important to the nation as airlines has been falsely cast in terms of only two options—heavy-handed regulation, of the type that existed prior to the mid-1970s, and deregulation, of the kind we have today. Neither are desirable alternatives.

The public debate must begin to move beyond these polar extremes, and explore more moderate alternatives in between. Neither governmental control nor unregulated competition are perfect environments. *The real choice is between imperfect regulation and imperfect competition.* But if applied with a gentle touch, economic regulation ought to be able to yield the best of both worlds—the economies and efficiencies of private ownership, and the accomplishment of social and economic policies in the highest public interest. Transportation generally and air transport, in particular, has too vast a social and economic impact in communication and commerce to leave it to the whims of a dwindling club of unconstrained monopolists. This is one industry in which the public interest must again be dominant. We ought to have the courage and wisdom to admit we made a mistake. The time has come to roll back deregulation.

Appendix

Data, Methods and a Note on Morrison and Winston's²⁴² "Counter-factual" Analysis of the Effects of Airline Deregulation on Fares

Annual data on nominal yields (revenue per passenger mile) came from the Air Transport Association. The annual average value of the Consumer Price Index (All Items) was used as a deflator to construct an index of real yields. Annual average fuel costs and the share of fuel in all expenses came from the Air Transport Association's Airline Cost Index for the years from 1970 on. For the earlier years included in the analysis (1967-69), both fuel costs and the fuel share of expenses were estimated, as noted below, as these data were generally unavailable. Real fuel costs were constructed using the CPI as a deflator.

The fuel-adjusted real yield was constructed as follows. Starting from an arbitrary level at the beginning of the period, the percentage change in the index in each year is computed as the difference between the percentage change in the unadjusted real yield, on the one hand, and the product of the percentage change in real fuel prices and the fuel share of costs in the previous year (and thus at the beginning of the current year), on the other. For example, if for some year real yields rose 10 percent, real fuel costs 20 percent and fuel costs in the prior year were 20 percent of costs, then the calculation of the percentage change in fuel-adjusted real yields would be: $10 - .2(20) = 6$ percent. The reported trend differences before and after deregulation were obtained by regressing the natural logarithm of unadjusted and fuel-adjusted real yields, in turn, on time (with 1967 = 0), a time/deregulation dummy to capture any change in trend post-deregulation, and a deregulation dummy to capture any one-time shift after deregulation. The first two columns of the table below present these results:

TABLE A-1

Regression Results: Dependent Variable

Coefficient on:	(1)	(2)	(3)	(4)
	Ln. of Real Yield	Ln. of Fuel- Adjusted Real Yield	Ln. of Real Yield	Percentage Change in Fuel- Adj. Real Yield
Time	-.0149 (.0043)	-.0275 (.0029)	-.0355 (.0121)	-.1314 (.3863)
DTime*	-.0165 (.0060)	.0085 (.0040)	.0153 (.0164)	.9701 (.5110)
DInt**	.1772 (.0740)	-.2298 (.0496)	.24474 (.1887)	-14.0162 (5.9598)
Ln. Real Fuel	---	---	.1620 (.0368)	---
Ln. Real Labor	---	---	.1319 (.3373)	---
R ²	.9300	.9839	.9647	.2737
Time Period	1967-88	1967-88	1970-88	1968-88
D.F.	18	18	13	17

(Standard errors in parentheses)

* DTime takes on the value of time in 1978 and after, and 0 for prior years.

** DInt takes on the value of unity in 1978 and after, and 0 for prior years.

The coefficient on time gives the estimated trend rate of increase in real yields prior to 1978. The sum of the coefficients on time and DTime gives the estimated trend rate of increase in real yields after 1978. Thus a statistically significant coefficient on DTime indicates a statistically significant *difference* in the trend before and after deregulation. In column one, with the *unadjusted* real yield as the dependent variable, the trend rate of increase is significantly lower (a bigger rate of decay) after as compared with before deregulation. As column 2 shows, however, the *fuel-adjusted* real yield grew significantly faster (a slower decay rate) after deregulation. The estimated one-time percentage shift in real yields for which deregulation is responsible can be computed as the anti-logarithm of the difference between the absolute value of the coefficient on DInt, on the one hand, and the product of 11 (the value of Time in 1978) and the coefficient of DTime, on the other. For the fuel-adjusted real yield, this computation yields 12.8 percent as the one-time decline in yield due to deregulation.

Fuel costs for the years 1967-69 were predicted by kerosene prices based on the regression of fuel costs on kerosene prices (obtained from the Bureau of Labor Statistics, Producer Price Index) in those years

(1970 and after) when both variables were available. The estimate of the fuel share of expenses in 1967-69 was based on the regression of fuel share on the natural logarithm of real fuel costs for 1970 and after. Finally, in computing the estimated real yield in 1989, only the yield for domestic services alone was available (from the Air Transport Association). The estimate for the yield on all services was made using the predicted value based on the regression of the yield for all services on the yield for domestic service alone in the years (1978 and after) when both were available. In each case the variables used to make the estimate were highly correlated with the variable to be estimated (R^2 in the regression of fuel costs on kerosene prices was .998; for the regression of fuel share of expenses on real fuel costs, R^2 was .960; and for the regression of the yield on all service on the domestic yield only, R^2 was .989).

The third column of Table A-1 reports the results of a regression which would appear to throw some doubt on the methodology employed by Morrison and Winston in their study of the effects of airline deregulation, in which they claim that deregulation was responsible for "an overall reduction in fares of nearly 30 percent."²⁴³ This estimate is based on a "counter-factual" methodology in which they ask what fares would have been in 1977 if deregulation had been in effect then, and compare the result to *actual* fares in 1977. The estimate of what fares would have been in 1977 under deregulation is based on the relationship between input costs—chiefly fuel and labor—and revenues-per-passenger in the period 1980-82 for major carriers. The regression of fares on input costs for this period allows them to predict 1977 deregulated fares based on 1977 input costs.

This method is highly problematic once the secular downward trend in real yields—even holding input costs constant—is appreciated. The third column of Table A-1 illustrates this trend. Even holding real labor and fuel costs constant, real yields fell by 3.5 percent per year, indicating a secular increase in productivity in the industry which prevailed prior to deregulation and if anything has been adversely affected by deregulation (the coefficient on DTime is positive, but not statistically significant).

Given such a secular trend, a substantial part of the difference between Morrison and Winston's "1977 deregulated yield" and the actual yield simply reflects the passage of time and the correlated productivity improvements between 1977 and 1981-82, when Morrison and Winston estimated their fare-cost relationship. This trend has nothing to do with deregulation and if anything was slowed down by deregulation. Half of the effect they find (14 of 28 percent—they round the latter to 30) might well be spurious for this reason.

Second, if disaggregated data were to confirm the lower rate of productivity improvement (lower rate of price decline, holding costs constant) after deregulation which is weakly supported in the aggregate annual data used for the regression reported above, then Morrison and Winston would only be telling us about a one-time shift which would eventually be dissipated. In fact, coincidentally, the 14 percent shift that

their results, properly interpreted, can attribute to deregulation is almost identical to the one-time shift (12.8 percent) that our descriptive trend analysis finds in the data. Thus, our conclusions that consumers paid in 1988 what they would have paid without deregulation, and actually pay 2.6 percent more in 1989—these conclusions are not inconsistent with Morrison and Winston's finding of a 30 percent fare *reduction* using their faulty methodology. It behooves them to use a method which allows for the trend decline in fares holding costs constant that the industry, deregulated or not, has historically exhibited before their estimates of "gains" to consumers in the form of lower fares can be taken seriously.

Endnotes

- ¹ By the late 1980s, Kahn had become somewhat conciliatory about the problems that had emerged under deregulation, though he insisted that the Department of Transportation was largely to blame for these ills by, for example, approving every merger submitted to it, and not expanding airport capacity sufficiently. Nonetheless, Kahn noted, "There have of course been severe problems and reasons for concern even from the public's standpoint: most prominently sharply increased congestion and delays, increased concentration at hubs, monopolistic exploitation of a minority of consumers, and possibly a narrowing of the margin of safety." Kahn, *Airline Deregulation—A Mixed Bag, But a Clear Success Nevertheless*, 16 *TRANSP. L.J.* 229, 251 (1988) [citation omitted] [hereinafter *A Mixed Bag*]. To his credit, Kahn has also become quite candid about the failure of he and his compatriots to foresee the "explosion of entry, massive restructuring of routes, price wars, labor-management conflict, bankruptcies and consolidations and the generally dismal profit record of the last ten years." Kahn, *Surprises of Airline deregulation*, 78 *AEA PAPERS AND PROCEEDINGS* 316 (1988). This article explores Kahn's pre-deregulation assumptions on contestability, concentration and predation, and contrasts them with his confrontation with the empirical results of deregulation.
- ² P. DEMPSEY & W. THOMS, *LAW & ECONOMIC REGULATION IN TRANSPORTATION* 7-17 (1986) [hereinafter P. DEMPSEY & W. THOMS].
- ³ Dempsey, *The Rise and Fall of the Civil Aeronautics Board—Opening Wide the Floodgates of Entry*, 11 *TRANSP. L.J.* 91, 95 (1979) [hereinafter *The Rise & Fall of the CAB*].
- ⁴ The agency was initially named the Civil Aeronautics Authority.
- ⁵ See Hardaway, *Transportation Deregulation (1976-1984): Turning the Tide*, 14 *TRANSP. L.J.* 101, 106 n.17 (1985) [hereinafter Hardaway], and articles cited therein. See also, L. KEYES, *FEDERAL ENTRY CONTROL OF ENTRY AND EXIT INTO AIR TRANSPORTATION* (1951)—an early critic of airline regulation; R. CAVES, *AIR TRANSPORT AND ITS STUDY: AN INDUSTRY STUDY* (1967); and W. JORDAN, *AIRLINE DEREGULATION IN AMERICA: EFFECTS AND IMPERFECTIONS* (1970).
- ⁶ Civil Aeronautics Board Practices and Procedures, Senate Subcomm. on Administrative Practice of the Judiciary Comm., 96th Cong., 1st Sess. (1976). *The Rise & Fall of the CAB*, *supra* at 114-18.
- ⁷ Quoted in P. DEMPSEY, *LAW & FOREIGN POLICY IN INTERNATIONAL AVIATION* 24 (1987) [hereinafter P. DEMPSEY]. See also,

Kahn, *The Theory and Application of Regulation*, 55 ANTITRUST L.J. 177, 178 (1986) [hereinafter *Theory and Application*], and Kahn, *Transportation Deregulation . . . and All That*, ECON. DEVELOPMENT Q. 91, 92 (1987) [hereinafter *All That*].

- ⁸ As a young CAB attorney, this author was also swept up in the movement. In 1978, he praised the benefits of partial deregulation: The objective of [deregulation] has been to provide the consumer . . . with improved service at reduced fares. In general, the theory has been that increased competition among air carriers will lead to improved quality and an increased variety of services available to the public at competitive prices reasonably related thereto, and that the price elasticity of the passenger market will ensure more efficient utilization of capacity for the carriers and, consequently, increased revenue. Enhanced reliance upon competitive market forces has tended to lower air fares and stimulate innovative price/service options. It has also tended to fill empty seats and thereby increase carrier revenue. The policies appear to have had an affirmative impact upon both consumers and the regulated industry that serves them.

Dempsey, *The International Rate and Route Revolution in North Atlantic Passenger Transportation*, 17 COLUM. J. TRANSNAT'L L. 393, 441 (1978).

- ⁹ While most of the airline industry opposed deregulation, it was supported by Federal Express and United Airlines, the latter the largest airline in the free world.
- ¹⁰ Statement of Alfred E. Kahn before the Aviation Subcommittee of the House Public Works and Transportation Committee on H.R. 11145, 8 (Mar. 6, 1978). *Aviation Regulatory Reform, Hearings Before the Subcomm. on Aviation of the House Comm. on Public Works and Transportation*, 95th Cong., 2d Sess. 124 (1978).
- ¹¹ As noted above, in the short run and with relatively modest liberalization, they were right.
- ¹² See generally, Hardaway, *supra*.
- ¹³ A 1978 Senate Committee report on federal regulation provided a fairly typical summary of those attributes of destructive competition deemed not likely to surface in a deregulated air and motor carrier industry:

A justification sometimes offered for regulation is that in the absence of regulation competition would be "destructive." In other words, without regulation, an industry might operate at a loss for long periods. . . . When there is excess capacity in a competitive industry . . . prices can fall far below average cost. This is because individual producers minimize their losses by

continuing to produce so long as their variable (avoidable) costs are covered, since they would incur their fixed (overhead) costs whether they produced or not.

What is "destructive" about large and long-lasting losses? Some economists have suggested that they would result in long periods of inadequate investment and slow technical progress which in turn might lead to poor service and periodic shortages. . . .

Another scenario that has sometimes been suggested is that periods of large losses will result in wholesale bankruptcies and the shakeout of many small producers with the result that the industry in question becomes highly concentrated in a few large firms. . . . A third and related notion is the possibility that powerful firms might engage in predation. . . .

"Destructive competition" seems . . . unlikely in the cases of airlines and trucks.

Study on Federal Regulation, Report of the Sen. Comm. on Government Affairs, 96th Cong., 1st Sess. 13-15 (1978). Thus, the entire early theory of regulation is judged to have no application to one of the very industries whose pre-regulation experience it was designed to explain.

- ¹⁴ Economies of scale are realized when increases in total production simultaneously decrease unit costs. As the scale of production grows, the enterprise becomes more efficient. The classic example of the phenomenon of economies of scale is the enormous cost savings experienced from producing automobiles on an assembly line rather than one car at a time. The cost savings resulting from economies of scale can be attributed to: (1) indivisibilities—a large capital-intensive piece of equipment operates most efficiently at full capacity; and (2) division and specialization of labor—highly specialized labor is more productive labor.

A concept related to economies of scale is economies of scope. The unit cost of producing one more item may be diminished when the scope of activity broadens. For instance, advertising costs per unit of serving a particular city-pair market are lower the more city-pair markets served, due to quantity discounts in media purchasing. See J. BAIN, *BARRIERS TO NEW COMPETITION* (1956); R. HEILBONER & L. THUROW, *ECONOMICS EXPLAINED* (1987); AND W. SHEPARD, *ECONOMICS OF INDUSTRIAL ORGANIZATION* (1979).

A related concept is economies of density. By combining passengers and groups of passengers, an airline can carry the aggregation of passengers more cheaply than if it carried those passengers separately. Through careful scheduling of flights, consolidating operations and routing passengers through its "hub," an airline streamlines its system, making it more dense and thus more efficient. The "hub and spoke" scheme employed by all of the major airlines is testimony to this phenomenon. For example, an airline which carries 100 passengers in a single plane to a destination as opposed to

carrying 50 passengers in two aircraft to that same destination is making use of economies of density. See A. FRIEDLAENDER & R. SPADY, FREIGHT TRANSPORTATION REGULATION: EQUITY, EFFICIENCY AND COMPETITION IN THE RAIL & TRUCKING INDUSTRIES (1980); A. LAMOND, COMPETITION IN THE GENERAL-FREIGHT MOTOR CARRIER INDUSTRY (1980).

As Melvin Brenner notes, the failure of researchers pre-deregulation to find size advantages in air transport was partly a result of regulation itself, which kept large firms from exercising their advantages vis-à-vis small firms. Hub and spoking to capture network economies was a post-deregulation phenomenon, when carriers were free to rationalize their route structures. And frequent flier benefits—with the obvious advantages they offer to large carriers—were of course a post-deregulation phenomenon well. (See Brenner "Airline Deregulation—A Case Study in Public Policy Failure" 16 *Transportation Law Journal* 186-88 (1988).

¹⁵ See generally, W. BAUMOL, J. PANZAR & WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982).

¹⁶ 1977 House Hearings, *supra* at 178.

¹⁷ *Id.* at 178-79 [emphasis supplied].

¹⁸ 1977 House Hearings, *supra* at 1137.

¹⁹ Kahn Oral Testimony, *supra* at 6190 and 6223.

²⁰ Kahn Oral Testimony, *supra* at 6201.

²¹ *Surprises From Deregulation*, *supra* at 318.

²² *A Mixed Bag*, *supra* at 236. Hamburger, *supra* at 9-A.

²³ *Safety and Re-Regulation*, *supra* at 155.

²⁴ A. Kahn, Talk to the New York Society of Security Analysts 24 (Feb. 2, 1978) [hereinafter Kahn 1978 Speech] [emphasis supplied].

²⁵ *Aviation Regulatory Reform, Hearings Before the Subcomm. on Aviation of the Committee on Public Works and Transportation*, 95th Cong., 1st Sess 1111 (1977) [hereinafter 1977 House Hearings] [emphasis supplied].

²⁶ *Economic Aspects of Federal Regulation in the Transportation Industry, Hearings Before a Task Force of the House Comm. on the Budget*, 95th Cong., 1st Sess. 19 (1977).

- ²⁷ *Interview With Alfred E. Kahn*, ANTITRUST (Fall 1988), at 4, 6 [hereinafter *Kahn Interview*]. According to Kahn, in deregulating the airlines “[w]e emphasized the contestability of airline markets and thought people would be well protected by the possibility of entry, because airplanes can move. Well, I think we exaggerated that. . . .” *Surprises, But Few Regrets*, REASON (Feb. 1989), at 35, 36.
- ²⁸ *Airline Deregulation, Hearing Before the Subcomm. on Antitrust of the Senate Judiciary Comm.*, 100th Cong., 1st Sess. 64 (1987) [hereinafter *Senate Hearings on Deregulation*].
- ²⁹ A. Kahn, Talk to the New York Society of Security Analysts 14 (Feb. 2, 1978) [hereinafter *Kahn 1978 Speech*].
- ³⁰ *Aviation Regulatory Reform, Hearings Before the Subcomm. on Aviation of the Committee on Public Works and Transportation*, 95th Cong., 1st Sess 133 (1977) [hereinafter *1977 House Hearings*].
- ³¹ A. Kahn, Talk to the New York Security Analysts 15 (Feb. 2, 1978).
- ³² Brenner, *Airline Deregulation—A Case Study in Public Policy Failure*, 16 TRANSP. L.J. 179, 200-01 (1988) [hereinafter *Brenner*]. He says:
 The eight years [1979-86] of deregulation comprise the worst financial period in airline history. The cumulative industry operations in those eight years generated a loss of over \$7 billion.
- ³³ See Dempsey, *Transportation Deregulation—On a Collision Course*, 13 TRANSP. L.J. 329, 342-52 (1984) [hereinafter *Collision Course*].
- ³⁴ Ott, *Industry Officials Praise Deregulation, But Cite Flaws*, AV. WEEK & SPACE TECH. (Oct. 31, 1988), at 88 [hereinafter *Ott*]. In 1988, the industry’s profit margin stood at 1.3 percent, compared to 2 percent a decade earlier. Stockton, *When Eight Carriers Call the Shots*, N.Y. Times, Nov. 20, 1988, at 3-1 [hereinafter *Stockton*]. Alfred Kahn maintains that the airline industry’s profit margin “fell to a puny 0.10 in the 1979-87 period.” Kahn, *Surprises of Airline Deregulation*, 78 AEA PAPERS AND PROCEEDINGS 316 n.1 (1988).
- ³⁵ Kahn, *Airline Deregulation—A Mixed Bag, But a Clear Success Nevertheless*, 16 TRANSP. L.J. 229, 248 (1988). Kahn recently said, “I found it distressing in the middle of this. I hated to be responsible for the industry suffering so. I wanted to be sure that it would always be financially healthy and able to attract capital.” Testimony of Alfred Kahn Before the California Public Utilities Commission 6247-48 (Jan. 31, 1989) [hereinafter *Kahn Oral Testimony*].

- ³⁶ *The Frenzied Skies*, BUS. WEEK (Dec. 19, 1988), at 70, 72 [hereinafter *The Frenzied Skies*].
- ³⁷ Peline, *Bumpy Ride Under Deregulation*, San Francisco Chronicle, Oct. 28, 1988, at 21 [hereinafter Peline]. One source estimates that 214 airlines have disappeared from the market. Hamilton, *Is the Airline Industry on the Verge of Going Global?*, Washington Post, Dec. 11, 1988, at K1 [hereinafter Hamilton].
- ³⁸ Peline, *supra*.
- ³⁹ The difficulty airlines face is in managing yield in a way which lures only passengers not otherwise likely to fly. Hence, Saturday stay-over requirements, which are unappealing to business travelers.
- ⁴⁰ Cited in Brenner, *supra*, at 188.
- ⁴¹ *Id.* Brenner's 1987 market share figures differ slightly from those in Chart II, being based on mid-1987 data.
- ⁴² *Deregulation Focus supra* at Supp. D, updated by *Happiness Is a Cheap Seat*, ECONOMIST (Feb. 4, 1989), at 68.
- ⁴³ 49 U.S.C. sec. 1302(a)(7). See *The Rise & Fall of the CAB, supra* at 135.
- ⁴⁴ DOT did require that some shuttle routes be sold off in the north-eastern corridor, but otherwise the Eastern acquisition by Texas Air passed through unmolested. See *Monopoly Is the Name of the Game, supra* at 538.
- ⁴⁵ To these mergers of passenger carriers, add the major air cargo acquisition of Seaboard by Flying Tigers, and the recent announcement by Federal Express of its intent to acquire Tigers, as well as the acquisition of Emery and Purolator by CF Air. Moreover, concentration levels in the passenger industry are even more pronounced when one recognizes that before deregulation, America had a healthy charter airline industry that enjoyed significant market share. Under deregulation, it has very nearly vanished. See Brenner, *supra*, at 184. In 1977, non-scheduled airlines had 43,000 domestic departures, compared with 18,000 in 1986. FEDERAL AVIATION ADMINISTRATION, AIRPORT ACTIVITY STATISTICS OF CERTIFICATED ROUTE CARRIERS 747-49 (1977); FEDERAL AVIATION ADMINISTRATION, AIRPORT ACTIVITY STATISTICS OF CERTIFICATED ROUTE CARRIERS 798-800 (1986).
- ⁴⁶ Valente, *Icahn Wants To Purchase Another Airline*, Wall St. J., Nov. 8, 1988, at A4.

- ⁴⁷ *The Boss They Love to Hate*, NEWSWEEK (Mar. 20, 1989), at 20.
- ⁴⁸ Hamilton, *Is the Airline Industry on the Verge of Going Global?*, Washington Post, Dec. 11, 1988, at K1; Dempsey, *Corporate Pirates Assault the Heavens—Leveraged Buy-Outs and the Airline Industry*, DEPAUL Bus. L.J.—(1989).
- ⁴⁹ See P. DEMPSEY, LAW & FOREIGN POLICY IN INTERNATIONAL AVIATION 78-78 (1987), and Dempsey, *Aerial Dogfights Over Europe: The Liberalization of EEC Air Transport*, 53 J. AIR L. & COM. 615 (1988).
- ⁵⁰ Stockton, *supra* at 6.
- ⁵¹ 1987 Senate Hearings on Deregulation, *supra*, at 61-62 (testimony of Morton S. Beyer)
- ⁵² Kahn, *Despite Waves of Airline Mergers, Deregulation Has Not Been a Failure*, Denver Post, Aug. 31, 1986, at 3G.
- ⁵³ *A Mixed Bag*, *supra*, at 234 [emphasis in original].
- ⁵⁴ Dempsey, *Fear of Flying Frequently*, NEWSWEEK (Oct. 5, 1987).
- ⁵⁵ Brenner, *supra* at 190, updated and expanded by Ott, *Congress, Airlines Reassessing Deregulation's Impact*, AV. WEEK & SPACE TECH. (Nov. 9, 1987), at 163; Hamilton, *The Hubbing of America: Good or Bad?*, Washington Post, Feb. 5, 1989, at H1, H2 col. 5 [hereinafter Hamilton]; and Cushman, Jr., *Two Studies Conflict on Airline Fares*, N.Y. Times, June 7, 1989, at A14.
- ⁵⁶ *The Frenzied Skies*, *supra* at 72.
- ⁵⁷ Hamilton, *supra* at H1, H2, col. 5.
- ⁵⁸ *Monopoly Is the Name of the Game*, *supra*, at 592-93.
- ⁵⁹ See Stockton, *supra* at 3-6.
- ⁶⁰ Dempsey, *Deregulation Has Spawned Abuses in Air Transport*, AV. WEEK & SPACE TECH. (Nov. 21, 1988), at 147.
- ⁶¹ Hearings Before the U.S. Senate Comm. on Commerce, Science and Transportation on Airlines 170-195 (1987) (statement of Julius Maldutis).
- ⁶² This is the number of *equal-size* competitors that would produce the same Herfindahl index as is observed in a market. It is the

reciprocal of the Herfindahl in proportionate form.

- ⁶³ Stockton, *When Eight Carriers Call the Shots*, N.Y. Times, Nov. 20, 1988, at 3-1.
- ⁶⁴ GENERAL ACCOUNTING OFFICE, AIRLINE COMPETITION 2, 3 (1988).
- ⁶⁵ Hamburger, *Fares Rose With NWA's Dominance*, Minneapolis Star Tribune, Dec. 1988, at 1A.
- ⁶⁶ Hamilton, *supra* at H2.
- ⁶⁷ Concentrated airports were defined as those where one airline handled at least 60 percent of enplanements.
- ⁶⁸ GENERAL ACCOUNTING OFFICE, AIR FARES AND SERVICE AT CONCENTRATED AIRPORTS (1989).
- ⁶⁹ S. Borenstein, Hubs and High Fares: Airport Dominance and Market Power in the U.S. Airline Industry, (University of Michigan: Institute of Public Policy Studies, March 1988).
- ⁷⁰ *Id.* at 23.
- ⁷¹ *Policies for the Deregulated Airline Industry*, Congress of the United States, Congressional Budget Office. July, 1988.
- ⁷² *Id.* at 15-16.
- ⁷³ *Id.* at 16.
- ⁷⁴ Kahn, in *A Mixed Bag*, *supra* at 233, fn. 7, recognizes the bias in the figures he presents towards overstating the increase in competition post-1978 due to their exclusion of inter-lining.
- ⁷⁵ *Surprises From Deregulation*, *supra* at 319.
- ⁷⁶ *A Mixed Bag*, *supra* at 232.
- ⁷⁷ *The Frenzied Skies*, *supra* at 73.
- ⁷⁸ See Hardaway *supra* at 49.
- ⁷⁹ Hardaway, *supra* at 49.
- ⁸⁰ United sold half of its Apollo/Covia system for \$500 million in 1988 to USAir and five foreign airlines. O'Brian, *Delta, AMR's American Airlines Plan to Merge Computer Reservations Systems*, Wall St. J.,

Feb. 6, 1989, at B10, col. 1. TWA had previously sold half of its CRS to Northwest Orient. And Eastern's system had been transferred to a Texas Air subsidiary for a paltry \$100 million. Castro, *Eastern Goes Bust*, TIME (Mar. 20, 1989), at 52.

⁸¹ See Saunders, *The Antitrust Implications of Computer Reservations Systems*, 51 J. AIR L. & COM. 157 (1985).

⁸² *Fighting Back*, *supra* at 6A.

⁸³ *Id.* These statistics were quoted by Michael Levine.

⁸⁴ *Dereg's Falling Stars*, OAG FREQUENT FLYER (Aug. 1988), at 28.

⁸⁵ *Id.*

⁸⁶ GENERAL ACCOUNTING OFFICE, AIRLINE COMPETITION: IMPACT OF COMPUTERIZED RESERVATIONS SYSTEMS (1986).

⁸⁷ Domestic commission overrides range from 1 percent to 5 percent above the standard 9 percent to 10 percent commission. International bonuses can be several times the standard 8 percent commission. Rose, *Travel Agents' Games Raise Ethical Issue*, Wall St. J., Nov. 23, 1988, at B1.

⁸⁸ Between 1984 and 1988, the industry average domestic load factor ranged between 59 percent and 62 percent. AMR CORPORATION, ANNUAL REPORT 9 (1989).

⁸⁹ In contrast, United's break even load factor between 1986 and 1988 ranged between 62 percent and 64 percent. UAL CORPORATION ANNUAL REPORT 1 (1988).

⁹⁰ See Russell, *Flying Among the Merger Clouds*, TIME (Sept. 29, 1986), at 56-57.

⁹¹ See Monopoly Is the Name of the Game, *supra*.

⁹² Hamburger, *Fares Rose With NWA's Dominance*, Minneapolis Star Tribune, Dec. 23, 1988, at 9A [hereinafter Hamburger].

⁹³ See especially Levine, *Airline Competition in Deregulated Markets: Theory, Firm Strategy, and Public Policy*. 4 *Yale Journal of Regulation* (1987): pp.393-493.

⁹⁴ Guerin-Calvert, *Hubs Can Hurt on Shorter Flights, at Crowded Airports*, Wall St. J., Oct. 7, 1987, at 28.

⁹⁵ C. Rule, *Antitrust and Airline Mergers: A New Era* 15, 18 (speech before the International Aviation Club, Washington, D.C., Mar. 7, 1989) republished at 57 *TRANSP.PRAC.* v. 62 (1989). On January 1, 1989, the Justice Department took over the largely latent airline merger authority of DOT. Mr. Rule's recognition of market reality appears to be a breath of fresh air over his DOT's counterpart's blind faith in market theory.

⁹⁶ *Interview With Alfred E. Kahn*, *ANTITRUST* (Fall 1988), at 7 [hereinafter *Kahn Interview*].

⁹⁷ Brenner, *supra*, at 189.

⁹⁸ See E. BAILEY, D. GRAHAM & D. KAPLAN, *DEREGULATING THE AIRLINES* (1985); Graham, Kaplan & Sibley, *Efficiency and Competition in the Airline Industry*, 14 *BELL J. ECON.* 118 (1983); Call & Keeler, *Airline Deregulation, Fares, and Market Behavior: Some Empirical Evidence*, in *ANALYTICAL STUDIES IN TRANSPORT ECONOMICS* (A. Daughety ed. 1985); Moore, *U.S. Airline Deregulation: Its Effect on Passengers, Capital, and Labor*, 29 *J. L. & ECON.* 1 (1986); Morrison & Winston, *Empirical Implications and Tests of the Contestability Hypothesis*, 30 *J. L. & ECON.* 53 (1987).

⁹⁹ According to the industry, in 1977, the airlines carried 240 million passengers; in 1987, they carried 447 million passengers. However, these figures may exaggerate the public enthusiasm for flying under deregulation. First, the figures themselves may distort the number of passengers flying by counting ticket coupons. Post-deregulation hub and spoking often creates two coupons whereas pre-deregulation nonstops produced one. Second, the graying of America has moved a larger block of America's population into the more affluent 35-65 age group, which has always flown more. Third, the fare wars of the early 1980s stimulated new traffic, building air transport into the lifestyles of Americans, and addicting them to it. Many continue to fly although prices have increased. Finally, the price wars of the early 1980s destroyed the intercity bus industry, causing the merger of Greyhound and Trailways, and causing them to drop several thousand small towns off the bus network.

¹⁰⁰ Ott, *supra* at 89.

¹⁰¹ See Wagner & Dean, *A Prospective View Toward Deregulation of Motor Common Carrier Entry*, 48 *ICC PRAC. J.* 406, 413 (1981). See also, Wagner, *Exit of Entry Controls for Motor Common Carriers; Rationale Reassessment*, 50 *ICC PRAC. J.* 163, 172-73 (1983).

¹⁰² McGinley, *Bad Air Service Prompts Call for Changes*, *Wall St. J.*, Nov. 9, 1987, at 28.

¹⁰³ *Ex-Official Suggests Lid on Air Fares*, Rocky Mountain News, Nov. 5, 1987, at 100. Said Kahn, "I don't reject the idea as a matter of principle. If price gouging gets bad enough, consumers will demand and deserve protection." *Fighting Back*, *supra* at 6A. See also, *Surprises From Deregulation*, *supra* at 320. Carroll, *Higher Fares, Better Service Are Forecast*, USA Today, Oct. 24, 1988, at B1.

¹⁰⁴ As Melvin Brenner noted:

Deregulated airline pricing until now has reflected substantial distortion of normal market forces, resulting from what in foreign-trade parlance would be called "dumping."

Carriers are more likely to engage in dumping in the "other fellow's" market—i.e., any route where the price-cutting carrier has had little participation. As prices are cut below full cost on the more intensely competitive routes, carriers have found it necessary to compensate for this by boosting prices above full cost on other routes. Some passengers end up paying more than the cost of their transportation, in order to subsidize the below-cost bargains enjoyed by other passengers.

Brenner, *Are Airlines Off Course?*, Wall St. J., Feb. 1, 1989, at A13.

¹⁰⁵ EFFECT OF AIRLINE DEREGULATION ON THE RURAL ECONOMY, HEARINGS BEFORE THE SUBCOMM. ON RURAL ECONOMY AND FAMILY FARMING OF THE SEN. COMM. ON SMALL BUSINESS, 100th Cong., 1st Sess. (1987) (testimony of John J. Nance).

¹⁰⁶ Dempsey, *Fear of Flying Frequently*, NEWSWEEK (Oct. 5, 1987), at 12.

¹⁰⁷ *Airline Deregulation Under Fire*, Denver Post, Sept. 23, 1988, at 4A. "Average fares, adjusted for inflation, have declined 13 percent in the 10 years of free-market travel." Burnley, *supra* at 4-D.

¹⁰⁸ Brenner, *Rejoinder to Comments by Alfred Kahn*, 16 TRANSP. L.J. 253, 255 (1988).

¹⁰⁹ *Better Buys, Crowded Skies*, U.S. NEWS AND WORLD REP. (Oct. 31, 1988), at 50, 52.

¹¹⁰ AIR TRANSPORT ASSOCIATION, AIRLINE COST INDEX, (September 18, 1989).

¹¹¹ The rates reported here differ from those in Table 1 because they are least-squares growth rates, first, and because they are continuously compounded annual growth rates, second.

¹¹² See previous note.

- ¹¹³ In MORRISON & WINSTON, *ECONOMIC EFFECTS OF AIRLINE DEREGULATION* (1986) at 22, 5.4 percent is given as an estimate of increased *travel time* post-deregulation, which they attribute partly to increased circuitry, partly to increased congestion. The percentage increase in *mileage* due to circuitry may be very different, of course. Since so much of travel time is takeoff and landing, increased mileage per trip will not add proportionately to travel time. But hub and spoking also increases takeoffs and landings per trip, which goes in the other direction. Taking 5.4 percent as an estimate of increased mileage amounts to treating these opposing factors—arbitrarily—as a wash. The 30 percent is an estimate of increased trip distance post-deregulation by airline consultant Ted Harris, cited in Doug Henwood, “Deregulation and Beyond,” in *Economic Notes* November-December 1989.
- ¹¹⁴ Kuttner, *Plane Truth*, *NEW REPUBLIC* (July 17, 1989), at 21,22.
- ¹¹⁵ S. MORRISON AND C. WINSTON, *THE ECONOMIC EFFECTS OF AIRLINE DEREGULATION* (1989).
- ¹¹⁶ Air Transport Association, *Air Transport 1989* (1989, Washington, D.C.)
- ¹¹⁷ *Deregulation Distortions, supra* at 334.
- ¹¹⁸ Doug Henwood, editor of the *LEFT BUSINESS OBSERVER*, has been a voice crying in the wilderness about the disparity between this data and usually-cited industry data. The author owes his knowledge of the existence and significance of the BLS data to a phone conversation with him. See Henwood, *Deregulation and Beyond*, *ECONOMIC NOTES*, (November/December 1989), and forthcoming article in *HARPER'S*. The author also wishes to thank Dale Smith of the Bureau of Labor Statistics, who kindly provided the data and patiently explained the methodology employed to get it.
- ¹¹⁹ *Air Transport Association*, *op. cit.* The preparation of revenue passenger miles flown on discounted tickets 79-88.
- ¹²⁰ S. MORRISON & C. WINSTON, *THE ECONOMIC EFFECTS OF AIRLINE DEREGULATION* 33 (1986).
- ¹²¹ *Id.*
- ¹²² *Gridlock!, supra* at 55.
- ¹²³ Brenner, *Airline Deregulation—A Case Study in Public Policy Fail-*

ure, 16 TRANSP. L.J. 179, 223 (1988).

¹²⁴ Dahl & Valente, *Airline Delays Rise Sharply After Earlier Improvement*, Wall St. J., Nov. 23, 1988, at B1.

¹²⁵ Winans, *Flight Delays Surge; Airlines Blamed by FAA*, Wall St. J., Nov. 3, 1989, at B1.

¹²⁶ See Morrison and Winston, *supra* at 16: In their model, "The mode choice by pleasure travelers is based on utility-maximizing behavior; the choice by business travelers on *cost-minimization behavior by their firms.*"

¹²⁷ Paradoxically, higher ticket prices are a mixed blessing. The unprecedented economic anemia created by deregulation deprived the airline industry of sufficient resources to replace aging aircraft. As the skin peeled off the aging jets, a chilling realization swept over the industry that it may be time to retire them. Higher profits will enhance the industry's ability to retire old aircraft and spend more on maintenance. While there is no guarantee that airline executives will so invest their healthier profits, if we are not to have a series of aviation catastrophes, it needs to do both.

¹²⁸ Rose & Dahl, *Skies Are Deregulated, But Just Try Starting a Sizeable New Airline*, Wall St. J., July 19, 1989, at 1.

¹²⁹ *Happiness Is a Cheap Seat*, ECONOMIST (Feb. 2, 1989), at 68.

¹³⁰ Estimate based on the percentage change 1988-89 in the yield for domestic service only, from ATA. See Appendix for details.

¹³¹ See equation 4 in Appendix Table A-1.

¹³² Peline, *supra*.

¹³³ After promulgation of the Bus Regulatory Reform Act of 1982, more than 4,500 small towns lost service, while fewer than 900 gained it. After promulgation of the Staggers Rail Act of 1980, more than 1,200 communities lost all rail service. Dempsey, *The Dark Side of Deregulation: Its Impact on Small Communities*, 39 ADMIN. L. REV. 455 (1987). Even Kahn saw a need for economic regulation to protect service to small communities, saying "I'm not sure I would ever have deregulated the buses because the bus is a lifeline of many small communities for people just to get to the doctor or to the Social Security office." *Kahn Oral Testimony, supra* at 6337.

¹³⁴ As one source noted:

One clear pattern emerges from the studies on the impacts of

deregulation in different public utility industries: small communities and rural areas have often paid a heavy price. Many small communities and rural areas have lost all of their passenger transportation services; many others have had their services reduced significantly. In addition, the costs of both passenger transportation and telephone services have increased, often substantially, in these areas. The implications of the loss of services and increases in costs to small communities are significant. Many of these communities are trying to attract new businesses and keep existing businesses and residents from moving away.

COLORADO STATE AUDITOR, PERFORMANCE AUDIT OF THE PUBLIC UTILITIES COMMISSION 39 (1988).

¹³⁵ Note, *Airline Deregulation and Service To Small Communities*, 57 N. DAK. L. REV. 607, 608 (1981).

¹³⁶ See CIVIL AERONAUTICS BOARD, REPORT ON AIRLINE SERVICE 43-50 (1979).

¹³⁷ Meyer, *Section 419 of the Airline Deregulation Act: What Has Been the Effect On Air Service To Small Communities?*, 47 J. AIR L. & COM. 151, 181 (1981) [hereinafter cited as Meyer].

¹³⁸ Havens & Heymsfeld, *Small Community Air Service Under the Airline Deregulation Act of 1978*, 46 J. AIR L. & COM. 641, 673 (1981).

¹³⁹ Stephenson & Beier, *The Effects of Airline Deregulation on Air Service to Small Communities*, 20 TRANSP. J. 54, 57 (1981) [hereinafter cited as Stephenson & Beier].

¹⁴⁰ For those communities losing service, i.e., there was no requirement that these communities be served *prior* to deregulation as there was for communities with so-called "certificated" service.

¹⁴¹ Kahn Oral Testimony, *supra*.

¹⁴² Under section 419 of the Airline Deregulation Act of 1978, small community subsidies were to last until 1988, when they were extended by Congress. In 1985, 142 communities were receiving subsidized service under the program. GAO REPORT, *supra*, at 31-32. In 1989, DOT announced its intention to eliminate subsidies to several cities. No doubt, most will lose air service altogether if federal economic subsidies dry up.

¹⁴³ Here and in what follows immediately, "hub" and "non-hub" do not refer to carrier hubs but to the definitions in the airport classification scheme used by DOT. In this usage, a hub airport handles at

least 1 percent of all enplanements nation-wide.

- ¹⁴⁴ *Deregulation Focus*, *supra* at Supp. B.
- ¹⁴⁵ See CIVIL AERONAUTICS BOARD, REPORT ON AIRLINE SERVICE, FARES, TRAFFIC LOAD FACTORS, AND MARKET SHARES 32 (Sept. 1, 1984). Since this data is not longer reported by the CAB, it has been updated to June, 1987 from information reported in the Official Airline Guide. OFFICIAL AIRLINE GUIDE (June 1, 1987); see also A. Goetz, *The Effect of Airline Deregulation on Air Service to Small and Medium-Sized Communities: Case Studies in Northeastern Ohio* 35 (1987) (Ph.D. Dissertation).
- ¹⁴⁶ Goetz & Dempsey, *Airline Deregulation Ten Years After: Something Foul in the Air*, 56 J. AIR L. & COM. 927, 947 (1989).
- ¹⁴⁷ See GENERAL ACCOUNTING OFFICE, DEREGULATION 73 (1985) [hereinafter cited as GAO REPORT].
- ¹⁴⁸ *Id.* at 73; Meyer, *supra*, at 181.
- ¹⁴⁹ *Id.*
- ¹⁵⁰ Oster, Jr. & Zorn, *Deregulation and Commuter Airline Safety*, 49 J. AIR L. & COM. 315, 316 (1984).
- ¹⁵¹ See Ahmed, *Air Transportation to Small Communities: Passenger Characteristics and Perceptions of Service Attributes*, 38 TRANSP. Q. 15, 21 (1984).
- ¹⁵² See Oster, Jr. & Zorn, *Airline Deregulation, Commuter Safety, and Regional Air Transportation*, 14 GROWTH AND CHANGE 3, 7 (1983).
- ¹⁵³ EFFECT OF AIRLINE DEREGULATION ON THE RURAL ECONOMY, HEARINGS BEFORE THE SUBCOMM. ON RURAL ECONOMY AND FAMILY FARMING OF THE SEN. COMM. ON SMALL BUSINESS, 100th Cong., 1st Sess. 81-82 (testimony of John J. Nance).
- ¹⁵⁴ Kihl, *The Impacts of Deregulation on Passenger Transportation in Small Towns*, 42 TRANSP. Q. 243, 248 (1988).
- ¹⁵⁵ Moore, *U.S. Airline Deregulation: Its Effects On Passengers, Capital, and Labor*, 24 J. L. & ECON. 1, 15, 18 (1986).
- ¹⁵⁶ Addus, *Subsidizing Air Service to Small Communities*, 39 TRANSP. Q. 537, 548 (1985).

- ¹⁵⁷ Meyer, *supra*, at 182. See also, S. TOLCHIN & M. TOLCHIN, *DISMANTLING AMERICA: THE RUSH TO DEREGULATE* 245-46 (1983).
- ¹⁵⁸ Meyer, *supra*, at 175.
- ¹⁵⁹ *The Economic Impact of Federal Airline Transportation Policies on East Tennessee: Hearing Before the Sen Comm. on the Budget*, 99th Cong., 1st Sess. 12-13 (testimony of Eugene Joyce).
- ¹⁶⁰ A. KAHN, *supra* at xxii. However, Kahn has been inconsistent on this subject, saying in 1986, "in most instances the quality—and especially the variety [of service]—has sharply improved [under deregulation]." Theory and Application, *supra* at 179. Kahn also criticized the "widespread but nevertheless erroneous popular supposition" that the quality of service had deteriorated. *All That*, *supra* at 97.
- ¹⁶¹ *Economic Aspects of Federal Regulation on the Transportation Industry, Hearings Before a Task Force of the House Budget Comm.*, 95th Cong., 1st Sess. 18 (1977).
- ¹⁶² Rowen, *Airline Service Has Gone to Hell*, Washington Post, July 23, 1987, at A21. See also, Dempsey, *Consumers Pay More to Receive A Lot Less*, USA Today, July 16, 1987, at 8A.
- ¹⁶³ *The Big Trouble With Air Travel*, CONSUMER REPORTS (June 1988), at 362, 363.
- ¹⁶⁴ Brenner, *supra*, at 223.
- ¹⁶⁵ *Gridlock!*, *supra*, at 55. Id.
- ¹⁶⁶ Brenner, *supra*, at 223.
- ¹⁶⁷ Civil Aeronautics Board Consumer Complaint Report 13b (1982), DOT Air Travel Monthly Consumer Complaint Report 1 (1988), Coleman, *No Silver Lining Expected to Brighten Airlines' Stormy Skies*, MARKETING NEWS (Sept. 25, 1987), at 1 [hereinafter Coleman]. The top ten complaints, in order of number registered, were:
- Flight Problems: Cancellations, delays, or any other deviation from schedule.
 - Baggage: Claims for lost, damaged, or delayed baggage; charges for excess baggage; carry-on problems; and difficulties with airline claim procedures.
 - Refunds: Problems in obtaining refunds for unused or lost tickets or fare adjustments.
 - Customer service: Rude or unhelpful employees, inadequate meals or cabin service, and treatment of delayed passengers.

- Reservations, ticketing and boarding: Airline or travel agent mistakes in reservations and ticketing; problems in making reservations and obtaining tickets due to busy phone lines or waiting in line; delays in mailing tickets; and problems boarding the aircraft (except oversales).
- Oversales: All bumping problems, whether or not the airline complied with DOT oversale regulations.
- Other: Cargo Problems, security, airport facilities, claims for bodily injury, and other miscellaneous problems.
- Fares: Incorrect or incomplete information about fares, discount fare conditions and availability, overcharges, fare increases, and the level of fares in general.
- Smoking: Inadequate segregation of smokers from nonsmokers, failure of the airline to enforce no-smoking rules, and objections to the rules.
- Advertising: Ads that are unfair, misleading, or offensive to consumers.

Id.

¹⁶⁸ As the Wall Street Journal observed: Complaints about service are at an all-time high, with flight delays and cancellations provoking protest chants and even violence among angry passengers.

McGinley, *Bad Air Service Prompts Call for Changes*, Wall St. J., Nov. 9, 1987, at 28.

¹⁶⁹ See Brenner, *supra*.

¹⁷⁰ C. Smith, Jr., C. Smithson & D. Wilford, *Managing Financial Risk* (1989).

¹⁷¹ The U.S. Department of Transportation has authority to protect consumers from many of these evils, including deliberate overbooking, unrealistic scheduling, and fraudulent ("bait and switch") advertising. But the Reagan Administration's DOT was reluctant to do much of anything to correct market failure.

¹⁷² Cited in Rowen, *Airline Deregulation Doesn't Work*, Washington Post, Apr. 8, 1982, at A27.

¹⁷³ Kahn *Airline Deregulation—A Mixed Bag, But a Clear Success Nevertheless*, 16 TRANSP. L.J. 229, 251 (1988); and *All That, supra* at 98, where he noted that the pressure created by competition exerted "on carriers to reduce prices and costs, may be inducing them also to cut corners on safety." In response to a question as to whether the margin of safety had narrowed under deregulation, Alfred Kahn conceded, "No one can deny that, under the pressure of competition, we may be walking on a thinner margin." *Interview With Alfred Kahn*, USA Today, Oct. 5, 1988, at 13A.

- ¹⁷⁴ *Air Safety Record Worst Since '74*, Chicago Tribune, Jan. 13, 1988, at 5.
- ¹⁷⁵ Thomas & McGinley, *Airlines' Growth, Pilot Shortage Produce Least Experienced Crews In Nine Years*, Wall St. J., Nov. 20, 1987, at 28.
- ¹⁷⁶ Valente, *United's Flight 811 Showed How Vital Capable Pilots Can Be*, Wall St. J., Mar. 1, 1989, at 1, col. 1. The Continental Airlines DC-9 crash in Denver during a takeoff in a snowstorm in 1987 was piloted by a 26 year old individual with less than 37 hours of flight time in a DC-9, while the captain had only 33 hours. Knox, *Policy Shift Silent Factor in Crash?*, Rocky Mountain News, Oct. 4, 1988, at 1-B, 2-B [hereinafter Knox]. Before deregulation, 80 percent of pilots had experience as a military pilot; today only half do.
- ¹⁷⁷ *Fatigue Blamed for Dangerous Pilot Errors*, Denver Post, Sept. 12, 1988, at 3A, col. 1.
- ¹⁷⁸ Duffy, *View From Cockpit Is Clearly Negative*, Denver Post, Dec. 7, 1987, at 2E [hereinafter Duffy].
- ¹⁷⁹ *Id.*
- ¹⁸⁰ Welling, *The Airline's Dilemma: No Cash to Buy Fuel-Efficient Jets*, BUS. WEEK (Sept. 27, 1982), at 65. P. DEMPSEY, LAW & FOREIGN POLICY IN INTERNATIONAL AVIATION 90 (1987).
- ¹⁸¹ *Collision Course, supra*, at 354 n.100.
- ¹⁸² Valente, Harris, Jr. & McGinley, *Should Airlines Scrap Their Oldest Planes for Sake of Safety?*, Wall St. J., May 6, 1988, at 1.
- ¹⁸³ *Id.* In 1988, 28 percent of the U.S. fleet was more than 20 years old. By the year 2000, it is anticipated that 40 percent will be that old.
- ¹⁸⁴ *Should Airlines Scrap Their Oldest Planes for Sake of Safety?*, Wall St. J., May 6, 1988, at 12, col. 3.
- ¹⁸⁵ Fischetti & Perry, *Our Burdened Skies*, 23 IEEE SPECTRUM 36, 79 (1986).
- ¹⁸⁶ Knox, *supra* at 2-B.
- ¹⁸⁷ Duffy, *supra*.
- ¹⁸⁸ *Skies Safe Today, But Turbulence Is Brewing*, Rocky Mountain News, May 4, 1988, at 37.

¹⁸⁹ Dempsey, *Cross Your Fingers, Hope Not to Die*, Chicago Tribune, Aug. 28, 1987, at 28.

¹⁹⁰ *Increasing Near-Midair Incidents Spur Drive to Improve ATC Performance*, AV. WEEK & SPACE TECH. 21 (1987), updated by DOT Total Near Midair Collision (NMAC) Reports (Sept. 30, 1988).

¹⁹¹ In 1981, there were 317 hazardous mid-air incidents (or 0.66 per 100,000 flight hours), 85 critical incidents (0.18 per 100,000 hours), and 230 potential incidents (0.48 per 100,000 hours). The corresponding figures for 1986 were 642 (1.46), 163 (0.37), and 473 (1.07). *Deregulation Focus*, *supra* at Supp. C.

¹⁹² *1 in 5 Airline Pilots Has Had Near Collision*, Denver Post, Dec. 24, 1987, at 2, col. 1. See also, *Increasing Near-Midair Incidents Spur Drive to Improve ATC Performance*, AV. WEEK & SPACE TECH. 127 (1987).

¹⁹³ Morganthau, *Year of the Near Miss*, NEWSWEEK (July 27, 1987), at 20.

¹⁹⁴ Molinari, *How Safe Is the Air Traffic Control System?*, USA Today, Nov. 1987, at 12, 13.

¹⁹⁵ McGinley, *Fifteen Airlines Face FAA Fines Totaling About \$6.5 Million for Alleged Violations*, Wall St. J., May 12, 1988, at 4.

¹⁹⁶ Ott, *supra* at 89.

¹⁹⁷ OTA REPORT ON AIRLINE SAFETY, *supra*.

¹⁹⁸ *Id.* at 13.

¹⁹⁹ McGinley, *Congressional Report Warns Air Safety May Be Imperiled Without Swift Action*, Wall St. J., July 28, 1988, at 35.

²⁰⁰ OTA, REPORT ON AIRLINE SAFETY, *supra*, at 11.

²⁰¹ *Id.* at 12.

²⁰² *Collision Course*, *supra* at 352.

²⁰³ Dempsey, *Deregulation Has Spawned Abuses in Air Transport*, AV. WEEK & SPACE TECH. (Nov. 21, 1988), at 147.

²⁰⁴ Many economists have been honest enough to admit that many of the fundamental assumptions upon which deregulation theory rested were specious. For example, Professor Michael Levine,

formerly a deputy of Alfred Kahn at the CAB and Texas Air executive, recently wrote:

“Deregulation has not brought about its benefits because deregulated markets work flawlessly or approximate the results of perfect competition or perfect contestability. This has surprised economists and analysts such as myself who expected the airline system once deregulated to exhibit near-textbook degrees of competition.”

Levine, *The Legacy of Airline Deregulation: Public Benefits, But New Problems*, AV. WEEK & SPACE TECH. (Nov. 9, 1987), at 161.

²⁰⁵ Testimony of Alfred Kahn Before the California Public Utilities Commission (Jan. 31, 1989) [hereinafter Kahn Oral Testimony].

²⁰⁶ *Id.*

²⁰⁷ *A Mixed Bag*, *supra*.

²⁰⁸ *Kahn Oral Testimony*, *supra* at 6245.

²⁰⁹ *Air Travel Altered by Deregulation*, Denver Post, Oct. 31, 1988, at 9C.

²¹⁰ *Ex-Official Suggest Lid On Air Fares*, Rocky Mountain News, Nov. 5, 1987, at 100. As CAB Chairman, Kahn lobbied for price ceilings. As he recently noted:

The original deregulation bill retained a rate regulatory ceiling on any routes in which a single carrier accounted for 90 percent or more of the business. As Chairman of the Civil Aeronautics Board, I testified on behalf of a unanimous board which had adopted the posture of favoring deregulation, that the ceiling trigger should be changed to 70 percent. We believed that while entry should be legally free and would be relatively easy, we never thought that would provide adequate protection in markets that are naturally monopolistic or oligopolistic—that just won't support more than one or two carriers.

Kahn Interview, *supra* at 6-7.

²¹¹ *See The Rise & Fall of the CAB*, *supra*.

²¹² Dempsey, *Market Failure and Regulatory Failure As Catalysts for Political Change: The Choice Between Imperfect Regulation and Imperfect Competition*, 45 WASH. & LEE L. REV. 1 (1989).

²¹³ Kahn appears to have a particular aversion to economic regulation, describing regulators as “typically very anal.” Kahn Oral Testimony, *supra* at 6246.

²¹⁴ See e.g., *Matsushita Electric Industrial Co. v. Zenith Radio Corporation*, 475 U.S. 574 (1986).

²¹⁵ *Airline Deregulation*, *supra* at 64.

²¹⁶ Dempsey, *Market Failure and Regulatory Failure As Catalysts for Political Change: The Choice Between Imperfect Regulation and Imperfect Competition*, 45 WASHINGTON & LEE L. Rev.1 (1989) [hereinafter *Market Failure*].

²¹⁷ *The Rise & Fall of the CAB*, *supra* at 173-74.

²¹⁸ Having scrambled the eggs, it is a bit obscene for Kahn to now to claim that if deregulation is a failed experiment, we can simply re-regulate. Said Kahn, "Way back in 1977-78, I recognized the possibility that the price competition we expected deregulation to release would prove to be only temporary, with the industry eventually settling back into non-price-competitive oligopoly; my response was that there was no reason for the government to continue systematically to suppress competition in the first place; and if indeed that eventually ever came to pass, that would be the time to consider re-regulating." Buckley, *Airlines Invite Talk of Regulation*, *Rocky Mountain News*, July 6, 1989, at 35.

²¹⁹ Kahn Interview, *supra* at 7. Kahn continued, "The nature of entry is not independent of the policies of the incumbents. . . . If you know that if you enter a market you will immediately be met on the nose or even under the nose, that will affect your willingness to enter." *Id.* Kahn has more recently noted that, "I take perverse satisfaction in having predicted the demise of price-cutting competitors like World and Capitol Airways if we did nothing to limit the predictable geographically discriminatory response of the incumbent carriers to their entry." *Surprises From Deregulation*, *supra* at 319.

In fact, the CAB did not heed Kahn's warning. Rather than restricting the competitive response of the incumbents, the Board allowed them to match the introductory fares of World and Capitol. Neither could long sustain the losses, and both exited from not only the transcontinental market, but from scheduled passenger service altogether.

In a recent article, Kahn expounded upon the problem of allowing a competitor to be driven from the market via predatory means:

As for the increasingly respectable view among economists that predation is nothing to worry about—why incur the cost of driving a rival from the market when you're unlikely to be able to sustain monopoly profits because rivals can always reenter?—my answer then was and still is: Does anybody really think that new price competitors will come to the consumer's rescue as promptly as their defunct predecessors? As I once heard Irwin Stelzer

observe, a hiker might not pay much attention to a "no trespassing" sign standing alone, but if he sees the field behind it littered with bodies of previous trespassers, it's reasonable to suppose he will respect it.

Deregulatory Schizophrenia, *supra* at 1067.

²²⁰ See Dempsey, *The International Rate and Route Revolution in North Atlantic Passenger Transportation*, 17 COLUM. J. TRANS-NAT'L L. 393 (1978).

²²¹ See G. BROWN, *THE AIRLINE PASSENGER'S GUERRILLA HANDBOOK; STRATEGIES & TACTICS FOR BEATING THE AIR TRAVEL SYSTEM* (1989).

²²² Carroll, *Higher Fares, Better Service Are Forecast*, USA Today, Oct. 24, 1988, at 2B.

²²³ Borenstein, "Hubs and High Fares," at 4.

²²⁴ A. SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 19-23 (1985 ed.).

²²⁵ *Airlines Reluctant to Disclose Rules*, Wall St. J., Oct. 6, 1988, at B1.

²²⁶ See P. DEMPSEY & W. THOMS, *supra* at 268-73.

²²⁷ *Airline vs Consumer: Your Rights*, CONSUMER REPORTS TRAVEL LETTER (Apr. 1989), at 40 [hereinafter *Airline vs Consumer*].

²²⁸ *Id.*

²²⁹ Dahl, *Obscure Airline Rules Trip Up Travelers*, Wall St. J., Oct. 6, 1988, at B1.

²³⁰ *Id.*

²³¹ *Airline vs Consumer*, *supra* at 40-41.

²³² *Tightening of Ad Rules for Airlines Supported*, Rocky Mountain News, Dec. 15, 1987, at 13-B.

²³³ It should be noted that to the extent that landing fees do not reflect full social costs, the efficiency of hub and spoking may be partly illusory: it uses intensively a resource, peak period airport facilities, whose private cost lies below its social cost due to subsidization.

²³⁴ Answer of the Consumer Federation of America to the Petition of the International Federation of Flight Attendants, DOT Docket No. 45792. In March, 1989, TWA finally placed an order for several

Airbus Industry aircraft.

²³⁵ Dempsey, *Corporate Pirates Assault the Heavens: Leveraged Buy-Outs and the Airline Industry*, 1 DEPAUL BUS. L.J.—(1989).

²³⁶ P. DEMPSEY, *supra* at 234-39.

²³⁷ Eastman, *Twelve Point Primer*, 16 TRANSP. L.J. 175, 176-77 (1987).

²³⁸ Legislation deregulating transportation was not confined to aviation. The federal statutes partially deregulating various aspects of the transportation industry include the following:

The Railroad Revitalization and Regulatory Reform Act of 1976

The Air Cargo Act of 1977

The Airline Deregulation Act of 1978

The International Air Transportation Competition Act of 1979

The Motor Carrier Act of 1980

The Staggers Rail Act of 1980

The Household Goods Transportation Act of 1980

The Bus Regulatory Reform Act of 1982

The Shipping Act of 1984

The Civil Aeronautics Board Sunset Act of 1984

The Freight Forwarder Deregulation Act of 1986.

²³⁹ Winans & Dahl, *Airlines Skid on Bad Moves, Bad News*, Wall St. J., Sept. 20, 1989, at B1.

²⁴⁰ Vogel, *Carl Icahn Has Lots of Cash: Will He Spend It on TWA?*, Bus. Week (July 17, 1989) at 86.

²⁴¹ Power, *Raiders May Not Make the Best Airline Pilots*, Bus. Week (May 15, 1989) at 35.

²⁴² MORRISON AND WINSTON, *THE ECONOMIC EFFECTS OF AIRLINE DEREGULATION* (1986).

²⁴³ Morrison and Winston, *Airline Deregulation and Public Policy*, SCIENCE 18 August 1989, at 708.

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