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A PERSPECTIVE ON AIRLINE REGULATORY REFORM

JAMES C. MILLER III*

AT A CONFERENCE held in New Hampshire in July of 1972, the late Paul Cherington, former Assistant Secretary for Policy at the U.S. Department of Transportation, mused that:

It is safe to conclude that the CAB is here to stay and that its powers will enlarge, not diminish. I am convinced of this by looking at the survivability of the Interstate Commerce Commission. Even when the majority leader in the Senate proposed the complete elimination of that agency (admittedly in a fit of pique), the ICC went right on cutting out its paper dolls, studying the tariff on Yak fat, pondering whether it was all right to abandon the rail line from Overshoe to East Overshoe (even though the trees were so large that no diesel could get through), meanwhile enjoying the spectacle of 60% of the eastern railroads slipping into bankruptcy. If an agency like that can survive (and get larger appropriations and have the chutzpah to ask for more powers), the CAB will surely flourish.¹

About eighteen months later, Feb., 1974 at another conference devoted (in part) to questions of regulation, George Eads, who subsequently became Acting Director of the Council on Wage and Price Stability and who played a large role in the development of the Administration's regulatory reform program, stated that:

It is quite clear that we are not likely to see a repeat of Joshua's remarkable victory at Jericho—the mere publication of our results will not bring down the walls of the . . . CAB . . . with a great crash. The battle for deregulation more likely will resemble a classical medieval siege with much logistical preparation, slow and dirty slog-

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¹ Cherington, *The Future of Airline Regulation*, AVIATION WEEK AND SPACE TECHNOLOGY 7 (August 28, 1972).

ging in the trenches, small assaults that will often be repulsed, and victory through attrition and exhaustion.²

At that same conference, Roy Pulsifer, Assistant Director of the Bureau of Operating Rights at the Civil Aeronautics Board (CAB or Board) noted:

The question of regulation or deregulation can be summed up quite succinctly. Economic regulation, in its present form, began with the enactment of the Civil Aeronautics Act of 1938. This legislation was reenacted in 1958 without substantive change. Moreover, Congress has approved approximately thirty amendments affecting title IV, the section of the act dealing with economic regulation, and none of these—not one—indicates any movement toward deregulation. In other words, there has been no chipping away at the basic commitment to regulation. One could argue, in fact, that a little cement has been added here and there. I see no effective pressure for deregulation in air transportation, none whatsoever. If the present situation is an accurate guide to the future, the Civil Aeronautics Board will continue to regulate the airlines indefinitely. So much for deregulation.³

Despite these rather pessimistic prognostications of a year or so ago, it would appear that any recent reports of deregulation's demise would have been greatly exaggerated. Witness the following developments:

- (1) On October 8, 1975, President Ford sent to Congress a comprehensive program of airline regulatory reform entitled the Aviation Act of 1975. This proposal, now H.R. 10261 and S. 2551, would promote competition by allowing greater price flexibility, greater freedom of entry, and reductions in the power of the Board to grant antitrust immunity.⁴
- (2) The Senate Subcommittee on Administrative Practice and Procedure, chaired by Senator Kennedy, held months of intensive hearings on airline regulation, and issued a draft report which concludes, "The Board should shift from reliance upon the procedures of classical price and profit rate-

² EADS, *Economists Versus Regulators*, PERSPECTIVES ON FEDERAL TRANSPORTATION POLICY 108 (J. MILLER 1975).

³ PULSIFER, *A CAB Perspective on Airline Regulation*, PERSPECTIVES ON FEDERAL TRANSPORTATION POLICY 205 (J. MILLER 1975).

⁴ Letter from President Gerald R. Ford to Congress October —, 1975; Fact Sheet on Aviation Act of 1975, The White House, October 8, 1975.

making towards greater reliance upon competitive forces in an effort to guarantee the widespread provision of low-cost, efficient service.”⁵ (The report goes on to recommend free entry and removal of minimum price regulation.)

- (3) The CAB proposed a limited experiment in deregulation “to test the effects of freer entry and exit into commercial aviation markets and more freedom for carriers to set fares . . .”⁶ The CAB also (a) took steps to end its so-called route moratorium, preventing entry, (b) withdrew its guidelines for minimum charter fares and its proposal to further restrict charter service, (c) rejected certain proposed fare increases, and (d) determined that agreements among carriers to reduce capacity would not be in the public interest at this time.
- (4) A special staff group from *within* the Board, headed by Roy Pulsifer (mentioned above) and set up to review the issue of regulatory reform, issued a report which recommended “that protective entry, exit, and public utility-type price control in domestic air transportation be eliminated within three to five years by statutory amendment.”⁷ The group also noted that “tinkering with the regulatory regime while preserving its fundamental features may be ineffective or produce perverse consequences.”⁸

What explains this sudden reversal in the outlook for deregulation? For those of us who are still in a mild state of euphoric shock, the reasons are not quite clear. However, I might offer the following speculation. First, over the past two years there have been significant increases in air fares—totaling approximately twenty percent. Even though some of the increases were perhaps “justified” by increases in the price of aircraft fuel, the magnitude of the

⁵ *Airline Regulation by the Civil Aeronautics Board: Report of the Senate Subcommittee on Administrative Practice and Procedure* 308 (draft issued June 27, 1975).

⁶ CAB Suggests Experimental Program to Test Consequences of Deregulation, CAB Press Release at 1 (July 7, 1975). The Board's proposal was set down as CAB Docket No. 28048 (July 7, 1975) (see Advance Notice of Proposed Actions, July 7, 1975).

⁷ CAB, REGULATORY REFORM: REPORT OF THE C.A.B. SPECIAL STAFF, Executive Summary at 2 (July 22, 1975).

⁸ *Id.*

change did not sit well with the general public. Secondly, during this period the public became aware of the situation in Texas, where Southwest Airlines, a non-CAB intrastate carrier, was fighting for its very life against two CAB-certificated carriers, Braniff and Texas International. The equity of the situation, as well as the fact that Southwest was charging rates much lower than comparable interstate rates, heightened public concern over the protective attitude of the CAB. Thirdly, there were reports of wide-spread illegal campaign contributions on the part of regulated air carriers. Fourthly, and perhaps most importantly, there were allegations of improper conduct on the part of Board officers, ranging from all-expense junkets at airline expense to suppressions of staff investigations into illegal campaign donations.

Moreover, it would appear that the political climate is ripe for reform. The House of Representatives has a flock of new fresh persons who generally have a skeptical attitude toward established ways of doing business. Also in the House, there has been a committee realignment, shifting responsibility for air transportation from the Commerce Committee to the Committee on Public Works and Transportation; arguably, these new Committee members have not yet been "captured" by the airline interests. The recent campaign spending reform laws and the attendant public debate presumably have made elected officials relatively less dependent on organized givers such as the airlines and their constituents. Consumer groups, such as Ralph Nader's Aviation Consumer Action Project, have come out in favor of deregulation, and the media has given the problem of regulation considerable play. Finally, we observe political leaders who are willing to spend capital to bring about needed reforms; importantly, this would appear to be a nonpartisan, non-ideological issue as witness, for example, the similarity in views of President Ford and Senator Kennedy.

As Roy Pulsifer noted in the quotation above,⁹ not once in the history of federal regulation of the airlines has there been a significant curtailment of the Board's powers. Not only that, but to my knowledge there has never been a serious attempt. But times have changed: the proponents of reform are serious and battle lines are being drawn. (Hearings on the Aviation Act of 1975 will in all

⁹ See text accompanying note 3, *supra*.

likelihood take place early this spring.) The rest of my paper outlines briefly the major costs of CAB regulation, deals with the issue of deregulation, responds to its critics, and puts a perspective on the Administration's proposal.

THE COSTS OF AIRLINE REGULATION

As they pertain to the airlines, economic conditions today are very much different from what they were in 1938, when airline regulation was established. At that time, the U.S. Government was attempting to promote an "infant" industry through an inefficient system of airmail subsidy. Basically, the government granted contracts to air carriers and prevented competition on those routes where contracts were granted. Recognizing the potential for excess profits on passenger services then or in the future, carriers would "buy in" on these contracts for extremely low rates.¹⁰ This perfectly rational economic behavior on the part of the air carrier firms was then cited as evidence of "destructive competition" in the airline industry and thus a need for governmental intervention to "rationalize" competition.¹¹ It was also said that governmental controls were needed to assure safety of operations.

Today, the domestic airline industry is no longer an infant industry in need of promotion; having increased in size since 1938 some 250-fold, by most standards it is now truly "mature." Mail contracts are no longer the vehicle for subsidy, and as a percent of total domestic revenues subsidy has declined from 31.6 percent in 1939 to less than one percent today. Except for minor payments to Northeast Airlines in the mid-1960's, the trunk carriers have been completely off subsidy since 1959.¹² Air safety, which until 1958 was a primary CAB concern, is now vested with the Federal Aviation Administration (FAA) of the Department of Transportation.¹³

¹⁰ See R. CAVES, *AIR TRANSPORT AND ITS REGULATORS: AN INDUSTRY STUDY* 124 (1962).

¹¹ Note that the legislative "Declaration of Policy" admonishes the Board to create "[c]ompetition [only?] to the extent necessary to assure the sound development of an air-transportation system. . . ." [Original (1938) language now Federal Aviation Act of 1958, § 1302(d), 40 U.S.C. § 1302(d) (1958)].

¹² See generally, G. EADS, *THE LOCAL SERVICE AIRLINES EXPERIMENT* (1972).

¹³ Responsibility for investigating air accidents was transferred from the CAB to the National Transportation Safety Board in 1966.

Another important change in the nature of the industry and its regulation is that the principal city-pair markets today are served by two or more airlines.¹⁴ Thus, in addition to no longer regulating so as to promote an infant industry and no longer regulating air safety, the Board finds itself no longer preoccupied with regulating monopoly. Instead, its primary activity is regulating competition. But under CAB regulation this competition is of a rather special sort: it is manifest almost totally in dimensions other than price.

A potential price-cutter in a CAB-regulated market faces significant costs in carrying out such an initiative. First, the carrier must announce the new rate at least thirty days in advance, thereby alerting its competition to the intended action.¹⁵ Secondly, there is the simple cost of publishing the new tariff with the Board (as legally required). Thirdly, any fare decrease is likely to be protested by competitors as being unreasonably low, discriminatory, preferential, prejudicial, or simply an instance of "unfair competition." Thus, the price-cutter nearly always must make an affirmative case before the Board that the new rate is justified, and this, of course, costs money.

The new rate may be rejected outright or set down for investigation. If it is rejected, then of course any advertising by the carrier about the prospective lower rate is lost, and perhaps on balance creates ill will because the carrier is unable to deliver. If the rate is suspended, the carrier may either withdraw the initiative or pursue it further. If the rate reduction is pursued, then significant procedural costs must be absorbed by the initiating carrier as the rate travels through various steps: prehearing conference, hearing, briefs to the Administrative Law Judge, possibly briefs to the full Board, oral argument, and possibly, in the end, even court challenges.

Because of these impediments, one observes little price competition in the airlines. When rates are lowered they are usually done so in the interest of the whole industry, for example, by introducing discount fares to enlarge total revenues and to make the airlines

¹⁴ Note that from 1955 to 1971 the percentage of total revenue passenger miles attributed to markets where two or more carriers each accounted for at least 10 percent of the market rose from 55.6 percent to 76.6 percent. See G. DOUGLAS & J. MILLER III, *ECONOMIC REGULATION OF DOMESTIC AIR TRANSPORT: THEORY AND POLICY* 114 (1974).

¹⁵ Thus, there is no such thing as a conventional "sale" in the airline business.

more effective in competing with other modes of common-carrier transportation, such as intercity buses. Another ramification of this constraint system is that from the standpoint of an individual airline it makes little sense to change the rate in just one market. In an attempt to "spread the cost," airlines which propose rate reductions usually do so on fairly large chunks of traffic, although such a strategy inevitably reduces the likelihood of ultimate approval by the Board and of course raises litigation costs.

The Board's statutory authority to control price and its procedures for implementing that control thus have rendered price competition in the airlines all but nonexistent. On the other hand, there are other means that carriers have for attracting and competing for passengers over which the Board exercises little or no direct control. Such non-price competition takes various forms, including costlier meals, "free" drinks, expensive advertising, flashy interior and exterior color schemes, "VIP" airport lounges, on-board lounges, pianos, bars, and the like. But much more important, in terms of its ultimate cost to the consumer, is the *scheduling* form of non-price competition. As will be discussed below, scheduling additional flights is the most effective means that individual carriers have of attracting additional passengers. Notably, except for its power to grant antitrust immunity and to orchestrate capacity agreements among carriers, the Board is prohibited from controlling schedule competition.¹⁶

For any price that is approved (or, in essence, "set") by the Board, the market has a "break-even" load factor (which we define to include a normal return on investment).¹⁷ If actual load factors are below the break-even level, the carriers will be earning less than a normal profit (or even accounting losses) and will cut back on capacity. Since market demand is inelastic with respect to capacity,¹⁸ load factors will rise, and the process of capacity curtailment will continue until actual load factors have risen to the

¹⁶ Federal Aviation Act of 1958, 49 U.S.C. § 1371(e)(4) (1962), *amending* 49 U.S.C. § 1371(e)(4) (1958), states that "[n]o term, condition, or limitation of a certificate shall restrict the right of an air carrier to add or change schedules. . . ."

¹⁷ "Load factor" is the proportion of seats filled, usually expressed as a percentage.

¹⁸ That is, the percentage change in total traffic in the market is less than the percentage change in the market's total capacity.

break-even level, at which point the incentive to reduce capacity *unilaterally* will disappear.¹⁹ On the other hand, if actual load factors exceed the break-even level, individual airlines have profit incentives to *increase* capacity. Actual load factors will fall and the process will continue until capacity increases have reduced actual load factors to break-even, at which point there is no more incentive to add to capacity.²⁰

An extremely important aspect of this non-price competition is that there is a whole range of prices which the Board may choose and still enable competitive returns to the individual carriers (or at least to the carriers as a group). If the Board chooses a "high" price, the break-even load factor will be "low" and, in equilibrium, so will be the actual load factor. If the Board chooses a "low" price, the break-even load factor will be "high" and, in equilibrium, so will be the actual load factor. The nature of this trade-off between fare and average load factor is displayed in Figure 1.²¹

Over a fairly wide range of prices, carriers, in equilibrium, will earn normal profits—and thus, arguably, the choice of price is not

¹⁹ Short of the break-even load factor an individual carrier can safely assume that as it reduces capacity its competitors will also. Once equilibrium has been reached, however, a carrier reducing capacity unilaterally may not assume that its competitors will do likewise.

²⁰ When market load factors are above break-even an individual carrier can make more profit by expanding its own capacity *provided* other carriers do not also expand their capacity. The evidence suggests that carriers act as though they make such an assumption. A variant explanation of observed behavior is that since an individual carrier may not assume that its competitors will not increase their capacity it must increase its capacity just to maintain its market share. In any event, when the break-even load factor is reached, there is no incentive to increase capacity, since the market load factor will fall below break-even and each carrier may assume that its competitors will follow a policy of restraint. See generally DOUGLAS & MILLER, *supra* note 14, ch. 4, and the papers cited therein by De Vany, Douglas, Miller, Straszheim, Yance, Barnekov, Eads, Milward, and White. See also Miller, *Airline Market Shares vs. Capacity Shares and the Possibility of Loss Equilibria* (processed, 1974) and CAB Docket No. 22908 (July 21, 1975) (Capacity Reduction Agreements Case), DOT-T-1 through 5 (1974).

²¹ Notably, the Board would appear to have accepted this model of regulated-carrier behavior. In a decision in its recent Domestic Passenger Fare Investigation [hereinafter cited as DPFI] CAB Docket No. 21866 (April 9, 1971), the Board said:

We find . . . that the higher the fare level in relation to cost, the more capacity carriers will offer and the lower load factors will be; and, conversely, the lower the fare level, the less capacity carriers will operate and the higher load factors will be.

CAB Order No. 71-4-54 at 23 (April 9, 1971).

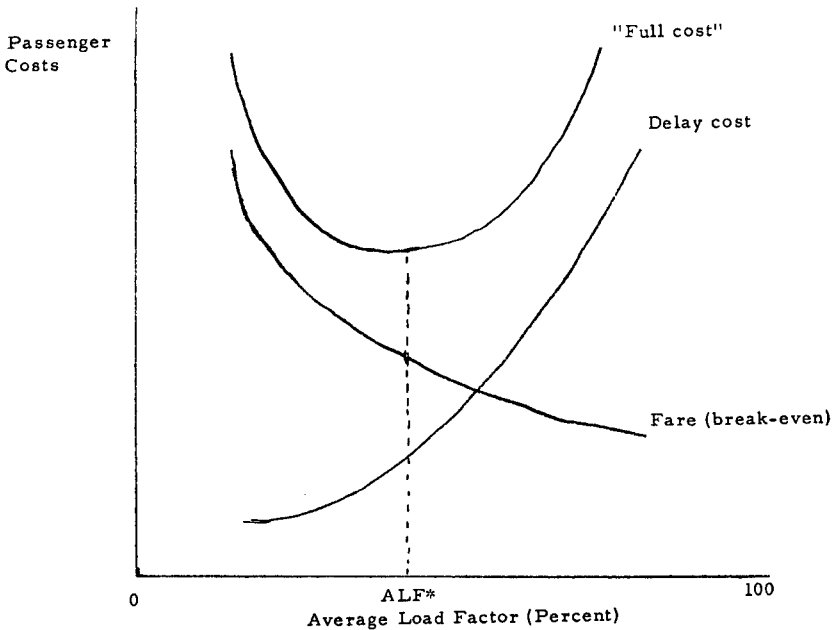


FIGURE 1

(For illustration purposes only; not drawn to scale)

material to them. The passenger's cost of service, however, is greatly dependent upon the price/load-factor option chosen by the Board. In essence, the passenger's "full cost" of travel is the ticket price *plus* the "cost" of delays he (or she) incurs in waiting for a flight. We see in Figure 1 the rather obvious proposition that as the average load factor rises the associated break-even fare falls. If this were the only element in the passenger's cost of service, public policy would dictate a fare consistent with load factors of near one hundred percent. As load factor rises, however, delay cost increases. Passengers find it more difficult to secure accommodations on the desired departure, and flights are fewer, with more time in between departures. When translated into money terms, this delay cost is as characterized in Figure 1. The passenger's full cost of service is thus the sum of these two types of cost (that is, ticket price plus delay), and, given these two curves, for some average load factor (that is, ALF*) level the "full cost" is at a minimum.

In our recent Brookings publication, George Douglas and I came to the conclusion that the Board has chosen too low a load factor

standard (that is, fifty-five percent as opposed to sixty to sixty-five percent) and consequently is promulgating fares which are too high.²² This means that the typical passenger is paying an "excess fare" which exceeds the value of the reduction in delay. This in turn means a higher full cost of service with no offsetting higher profits to carriers. Thus, there is regulation-induced excess capacity which represents a dead-weight loss to society.²³ Douglas and I estimate that during 1969 air passengers paid excess fares to domestic trunk carriers ranging between \$366 million and \$538 million, for which they received quality improvements valued at between \$118 million and \$182 million. This leaves a dead-weight welfare loss in trunk-line service for 1969 of between \$248 million and \$356 million.²⁴

Since 1969 the Board has established target load factors of fifty-five percent as opposed to the then-prevailing levels of approximately fifty percent. However, the recent increases in fuel prices have raised the optimal average load factor to approximately sixty-five to seventy percent, so the present configuration of service is still characterized by efficiency costs on the same order of magnitude. Based on total domestic trunk revenues of \$9,316 million for the year ending September, 1973, this implies a current annual welfare cost for trunk service ranging between \$355 million and \$509 million.

There are additional costs of airline regulation. First, there is evidence that the relationship between the Board and the industry has resulted in a level (and structure) of fares which maximizes total capacity rather than one which maximizes total passenger traffic.²⁵ This is illustrated in Figure 2.²⁶ Since some costs are "external" to the airlines and their passengers, this behavior has quite likely resulted in excessive investments in airport and airway facilities as well as excessive consumption of fuel.

²² In the DPFI the Board announced its intention of in effect setting fares at levels which would cover costs (plus a reasonable return on investment) on the basis of an industry-wide average load factor of fifty-five percent.

²³ See also DOUGLAS & MILLER, *supra* note 14, ch. 6.

²⁴ DOUGLAS & MILLER, *supra* note 14, at 172.

²⁵ See De Vany, *Effects of Price and Entry Regulation on Airline Output, Capacity and Efficiency*, BELL J. OF ECON. AND MANAGEMENT SCI. at 327-45 (Spring 1975); and DOUGLAS & MILLER, *supra* note 14, at 60, 176-77.

²⁶ Rather than choosing fare level F*, the Board has chosen fare level F**. Figure 2 is adapted from De Vany, *supra* note 25.

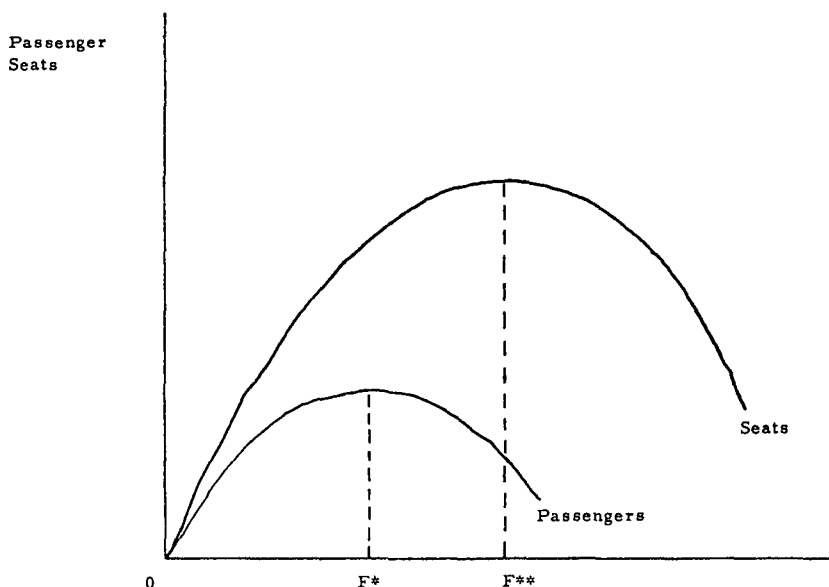


FIGURE 2

(For illustration purposes only; not drawn to scale)

Secondly, the Board's policy of protecting existing carriers from competition by preventing the entry of new carriers²⁷ not only means that the public has been denied lower price-quality options but that potentially more efficient carriers have not been able to test the efficiency of existing carriers. Whether new carriers would have significantly lower costs is subject to considerable debate, but evidence on relative carrier costs and the evidence from unregulated markets certainly raises this possibility.²⁸

Finally, there are numerous regulator-imposed constraints on routings and service requirements which serve to raise costs.²⁹ To my

²⁷ Since regulation was established in 1938, not a single (new) trunk carrier has entered the market, and not a single trunk has exited the market except through merger.

²⁸ See Gordon, *Airline Costs and Managerial Efficiency*, TRANSPORTATION ECONOMICS: A CONFERENCE at 61-94 (1965); Keeler, *Airline Regulation and Market Performance*, BELL J. OF ECON. AND MANAGEMENT SCI. at 399-424 (Autumn 1972); W. JORDAN, *AIRLINE REGULATION IN AMERICA: EFFECTS AND IMPERFECTIONS*, ch. 11 (1970); DOUGLAS & MILLER, *supra* note 14, at 141-49.

²⁹ Some of these have been instituted to assure service to points that the *incumbent* carrier might not ordinarily serve. To some extent, then, such costs are a *revealing* of the resource costs of pursuing certain social (non-economic) objectives.

knowledge a precise estimate of all these costs has not been made. In my judgment this figure would be in the neighborhood of \$1 billion per year, or around ten percent of total domestic trunk-line revenues.³⁰

ECONOMIC EFFICIENCY OF DEREGULATED MARKETS

Costs of regulation such as those described above implicitly assume some alternative, usually ideally efficient markets. In real life, critics of regulation must be careful to identify realistic alternatives. Two such alternatives immediately come to mind: (a) "enlightened" regulation, and (b) total deregulation. On the one hand, it is entirely possible that a truly enlightened regulator could eliminate most of the costs described above. For example, in an ideal setting the CAB could adopt target load factors by market characteristic and, by regulating fares accordingly, eliminate the costs of "excess capacity." There are two significant problems with this approach, however. First, a regulator is inherently less capable of administering resources "correctly" than is an individual competitive entrepreneur. The regulator neither has information as good as that of the entrepreneur nor does he (or she) have the appropriate incentives. Secondly, in terms of fact (*versus* theory), the performance of the existing regulatory agencies causes one to be extremely skeptical of achieving good industry performance by relying upon regulation.

At the other extreme is the hypothetical completely deregulated, competitive market.³¹ The theoretical argument for the efficiency of deregulated airline markets is extremely powerful. The airline industry appears to conform closely to the necessary conditions for price competition: no significant scale economies,³² fairly elastic (firm) demand, relative difficulty of coordinating pricing and output policies (that is, collusion), and, in the absence of controls, relative ease of entry and exit. Looking at the question of optimal

³⁰ Note that these losses are not simply transfers from consumers to producers or from consumers to consumers. They represent the economic cost of *squandered resources*.

³¹ For this discussion, by the term "deregulation" and its derivatives we mean the elimination of economic regulation only, *not the elimination of safety regulation*.

³² See DOUGLAS & MILLER, *supra* note 14, at 13-18, and the sources cited therein.

price and load factor, with fare flexibility a carrier would have an alternative means of attracting additional passengers: lowering price. The carrier could then judge the most effective way of attracting business: lowering price or providing more service. The result would be the appropriate market combination of price and quality. Moreover, in some markets there may well be a distribution of price-and-quality combinations that is desired by the public.³³ Free markets provide incentives for this configuration to come about.

Under conditions of free entry and free exit, firms would have to stand a more substantive "market test" of their efficiency. More efficient firms would survive, and inefficient firms would be forced to exit. The removal of restrictions on routings would result in lower costs to consumers, and uneconomical markets would be abandoned. There might well be some "market imperfections,"³⁴ but in economic efficiency terms these would probably be fairly minor.

Of course, we would like to rely upon facts concerning deregulated markets as well as upon theory. Unfortunately, we do not have ideal tests of deregulation since the CAB has preempted truly comparable experiments. We do have two deregulated markets, however, that are *similar* in many respects to CAB-regulated markets, except, of course, for differences in the degree of regulation.

First, we have the *intrastate* markets, which are outside CAB jurisdiction. Prior to 1965, the California Public Utilities Commission regulated maximum prices in intrastate air service, but not entry and exit.³⁵ Professor William A. Jordan has made an extensive study of the history and economic character of this market and has concluded that in virtually all respects the California intrastate airline market is much more efficient than compar-

³³ For example, a low-load-factor, low-intensity, high-amenity, high-priced service catering to business travelers, and a low-cost, "no-frills" service catering to the vacation traveler. At present such specialization is limited—another cost of regulation.

³⁴ These include: (a) collusion over prices and/or service, (b) quasi-monopoly service in marginal markets, and (c) inefficient mixes of aircraft and frequencies. On the latter point, see George W. Douglas, *Equilibrium in a Deregulated Air Transport Market* (paper delivered at a seminar on Problems of Regulation and Public Utilities, Dartmouth College, 1972, processed).

³⁵ Since then control over entry and exit has been instituted.

able interstate (CAB-regulated) markets.³⁶ Even today, with tighter regulation, fares in California intrastate markets average much less than fares in comparable interstate markets.

A similar result obtains in the Texas intrastate market, where Southwest Airlines, a carrier licensed by the Texas Aeronautics Commission, is in competition with Braniff Airways, a CAB-regulated trunk carrier, and Texas International Airways, a CAB-regulated local service carrier. Despite having its service introduction postponed nearly four years because of judicial challenges by Braniff and Texas International, the carrier is now serving the "golden triangle" (Dallas, Houston, and San Antonio) at a profit, charging fares which average some twenty to fifty percent less than comparable CAB-regulated fares.

The other major unregulated market is that of commuter airlines, previously known as "air taxis." In 1952, faced with "doing something" about a plethora of illegal (interstate) air taxi operations, the Board simply exempted from regulation³⁷ any interstate air carrier which utilized aircraft having no more than 12,500 pounds gross takeoff weight.³⁸ At that time, it was thought that no operator could provide profitable scheduled operations with such small aircraft. Subsequently, however, technology changed, and equipment of this weight is now capable of carrying up to nineteen passengers at reasonable comfort and speed and at relatively low cost. Today, there are literally hundreds of such operators which provide regularly-scheduled service to low-density markets—and in some higher-density markets, often in direct competition with trunk and local service carriers. Since, with few exceptions, these carriers receive no government subsidy, and since they are handicapped in terms of the size of the aircraft they may operate, they tend to serve marginal or uncertain routes; thus, their turnover is judged by some as being fairly high. It is notable, however, that such unregulated carriers serve many markets that CAB-regulated carriers have chosen to abandon and that their service,

³⁶ JORDAN, *supra* note 28. See also CAB BUREAU OF ACCOUNTS AND STATISTICS, TRAFFIC, FARES, AND COMPETITION: LOS ANGELES-SAN FRANCISCO AIR TRAVEL CORRIDOR (1965).

³⁷ Federal Aviation Act of 1958, 49 U.S.C. § 1348(e) (1958).

³⁸ That standard was recently changed to a thirty passenger capacity and a net payload of no more than 7,500 pounds.

given their equipment and the characteristics of their markets, is safe and reliable.

MAJOR ARGUMENTS AGAINST "DEREGULATION"

By no means has this brief discussion touched on all the characteristics of deregulated markets. In the space remaining, however, I would like to respond to the more significant criticisms raised by those who oppose less regulation of the domestic air transport system.³⁹

1. *Without regulation, flights would be unsafe.* Critics of deregulation argue that regulation is needed to insulate carriers from market forces; otherwise, the "dog-eat-dog" atmosphere of free competition would lead carriers to skimp on safety, to the public's detriment. There are several answers to this. First, the governmental instrumentality charged with air safety is the FAA, not the CAB. Deregulation, as I have defined it, would leave the FAA's role unaffected.

Secondly, there is little direct evidence that economic regulation has had any effect on air safety. For example, the Board has never withdrawn or suspended the certificate of a trunk operator on grounds that its operations were unsafe, and its constraints on entry have seldom if ever revolved around issues of safety. One variant of the safety hypothesis is that high profits mean safe operations. However, when I tested this naive proposition over the period 1939 to 1953, for which there appeared to be adequate variations in profit rates and fatality rates to make a test feasible, I found the result contrary to what critics of deregulation would have predicted. While the net effect was small and statistically not meaningful, the result actually showed a *positive* relationship between industry profit rates and industry fatality rates.⁴⁰

³⁹ See AIR TRANSPORT ASSOCIATION, CONSEQUENCES OF DEREGULATION OF THE SCHEDULED AIR TRANSPORT INDUSTRY: AN ANALYTICAL APPROACH (1975); Hotz, *A Dangerous Fantasy*, AVIATION WEEK AND SPACE TECHNOLOGY, April 28, 1975, at 11; Hotz, *The Deregulation Debate*, AVIATION WEEK AND SPACE TECHNOLOGY, May 19, 1975, at 9.

⁴⁰ The result was as follows: Domestic fatality rate (passenger fatalities per 100 million miles flown) = $1.76 + (.009 \times \text{domestic industry profit rate})$. (T-statistics on variable coefficient = .25; equation $R^2 = .08$.) Data sources: CAB, HANDBOOK OF AIRLINE STATISTICS: 1971 EDITION 554 (1972); and CAVES, *supra* note 10, at 392.

Finally, after all, the flight crew is not likely to take significant risks. As Shakespeare put it in *The Tempest* (Act I, Scene 1):

Gonzales: . . . yet remember whom thou hast aboard.

Boatswain: None that I more love than myself.⁴¹

2. *Under deregulation there would be wholesale abandonment of markets.* For example, a recent Air Transport Association (ATA) study (in response to Senator Kennedy's request for the industry to identify those scheduled routes where service might be reduced or eliminated under deregulation) concluded that of the 994 trunk-carrier routes analyzed, 372 would be candidates for elimination under deregulation, while nearly all of the remaining 622 could experience sharp curtailment of service.⁴²

This prediction is based, in part, on the assumption that the CAB presently constrains the abandonment of hundreds of markets. This is not true. The trunk carriers now serve many markets their certificates do not require them to serve, and in any case, trunk carriers have found little difficulty in obtaining CAB permission to abandon markets of their choosing. The prediction is also based on the argument that the present pricing structure enables a considerable amount of cross-subsidy. The common belief that cross-subsidy is widespread—that carriers purposely serve losing markets and siphon off profits from other markets to defray losses—is not credible. It is hard to believe that carrier managements view their respective firms as eleemosynary institutions. (If they do, then surely their stockholders should be made aware of this fact!) George Douglas and I have concluded that the extent of such cross-subsidy is greatly overstated,⁴³ and apparently the Board agrees.⁴⁴ If this is true then presumably most alleged "losing" markets are in fact self-supporting and would not be abandoned if regulation were terminated.

Even if one other carrier abandons a market, this is not to say

⁴¹ I am indebted to Mancar Olson for pointing out these lines, also quoted in W. BAUMOL, *WELFARE ECONOMICS AND THE THEORY OF THE STATE* 49 (2d ed. 1967).

⁴² AIR TRANSPORT ASSOCIATION, *supra* note 39. The ATA also suggested that the 826 nonstop routes of the local service carriers identified as presently receiving subsidy would be candidates for elimination under deregulation.

⁴³ DOUGLAS & MILLER, *supra* note 14, ch. 6.

⁴⁴ See CAB Order No. 74-3-82 at 66-72 (March 18, 1974). Moreover, the Board has recently enunciated a policy of eliminating any cross-subsidy. *Id.* at 68.

that some other carrier could not serve it at a profit.⁴⁵ In 1973 Texas International Airways, a local service carrier, applied to the CAB to delete service at College Station, Texas. Reason? Texas International was losing its market to a small College Station-based commuter, Davis Airlines. Both were offering service to Dallas and to Houston. Both charged \$27 to Dallas, while Daxis' \$20 rate to Houston was a dollar less than Texas International's. But while Davis was making money at these rates, the Board was forced to conclude that Texas International was losing \$41 per enplaned passenger.⁴⁶ In short, while Davis's cost per passenger was in the neighborhood of \$20-\$27, Texas International's cost was in the neighborhood of \$62-\$68. Thus, under deregulation the local service carriers might well become more efficient and thus be able to serve some markets now receiving Federal support without the need of subsidy.

There also may be points which would be abandoned if carriers were restrained to the CAB-regulated fare, but if free to charge a higher fare (if need be), carriers could serve such markets at a profit. Finally, even if CAB-certificated carriers abandoned these markets one must not overlook the outstanding success of the (unregulated) commuter airlines in providing service to small communities and serving low-density markets. According to the commuter airlines' trade association, 131 commuter airlines listed schedules in the October 1, 1974, issue of the *Official Airline Guide*. Of the 665 airports analyzed, 210 (31.6 percent) were served *exclusively* by commuter airlines; 256 (38.5 percent) were served exclusively by CAB-certificated airlines; and 199 (29.9 percent) were served jointly by certificated and commuter airlines. In serving a total of 409 airports, the commuter airlines served over 1,530 city-pair markets.⁴⁷ These unregulated carriers have accomplished this record despite constraints on the size of aircraft they may fly.⁴⁸ One must conclude that of markets that were aban-

⁴⁵ Perhaps the replacement carrier is more efficient, or the point is more complementary to its route systems.

⁴⁶ See CAB Order No. 73-4-49 (April 10, 1973).

⁴⁷ National Air Transportation Association, *AirTran News* at 16 (April, 1975).

⁴⁸ 14 C.F.R. § 2982 limits commuters to operating aircraft of not more than thirty passengers and not more than 7,500 pounds payload. (Exceptions to these limitations are occasionally granted on a case-by-case basis.)

doned under deregulation, most of them would be picked up by commuter carriers.

3. *Under deregulation, only a handful of carriers would survive.* This could happen, but if it did such industry concentration would not be a problem. Since there are no pervasive scale economies, there is little reason to anticipate this outcome any more than one might anticipate the emergence of several hundred operators. Even if only a handful of carriers did survive, however, the ease of entry into deregulated markets would act to "police" the market and thus prevent any abuses of monopoly power.

4. *Under deregulation, prices and schedules would be unstable.* Without doubt, under deregulation fares would be less "stable" than at present. After all, regulation has virtually precluded price competition. However, rates would not fluctuate broadly. The reason is that information is a scarce resource, and carriers can reduce this expense and thus attract passengers by keeping such rates relatively stable. The same is true of schedules. An unregulated carrier stands to gain considerable ill will by not keeping schedules, or, put another way, an unregulated carrier may gain a good reputation by maintaining published schedules. Certainly the experience of the intrastate airlines and the commuter airlines is inconsistent with the prediction of unstable rates and schedules under deregulated conditions.⁴⁹

5. *Under deregulation, rates would be too high.* While there might be pockets of monopoly power and some limit-pricing, the evidence from the intrastate markets suggests that this is unlikely to be a problem. Notably, in the (unregulated) commuter markets, prices tend to be low as compared with CAB-regulated rates. A comparison of the commuter fare structure with that of the trunk carriers reveals that the commuters charge less for distances up to 126 miles (and more thereafter). A comparison of the unregulated commuter fare structure with that of the local service carriers (standard fare) reveals that the commuters charge less for distances up to 312 miles. Given that Part 298 regulations tend to constrain commuter carriers to short-haul service (the commuter carriers' average stage length is only seventy-five miles), this would appear to be rather strong evidence that the elimination of maximum

⁴⁹ See JORDAN, *supra* note 28, chs. 5-10.

fare regulation would not lead to excessively high rates.⁵⁰

6. *Under deregulation, rates would be too low (i.e., chaos).* There is no theoretical reason to expect chaotic competition. Moreover, evidence on airline performance in the relatively unregulated commuter and intrastate markets fails to reveal any chaos. In any event, *predatory* pricing would be constrained by the antitrust laws.⁵¹ As George Douglas is fond of saying, any instability that did occur would be in the executive offices of some of the airlines, rather than in the basic system itself.

7. *Under deregulation, the carriers would not cooperate.* Critics of deregulation argue that without Board compulsion carriers would not, for example, interline passengers. That is difficult to believe, for surely there would be a profit incentive to mesh schedules and cooperate in the transfer of passengers. Also, we observe such "cooperation" in unregulated markets.

Carriers point out, however, that deregulation would make them liable for antitrust violation and that fear of prosecution would make them very wary of entering into cooperative working ar-

⁵⁰ The so-called "fare formula" for trunk coach travel (not including tax) is as follows: \$13.85 "terminal charge" plus 7.79¢ per mile for the first 500 miles; 5.94¢ per mile for 501-1500 miles; and 5.71¢ per mile for 1501 and over (CAB Order No. 74-12-109 (December 27, 1974)). This is closely approximated by the following regression:

$$F = 17.02 + .062 M \quad (R^2 \cong 1.0)$$

where F = total fare (net of tax), and

M = mileage

Local service carriers are allowed to charge 130 percent of the coach fare as their "standard" fare, and they usually do so in their non-trunk-competitive markets:

$$F = 22.24 + .081 M \quad (R^2 \cong 1.0)$$

Fares charged by commuter airlines are unregulated. A random sample of fifty-four markets in which commuters provide service was examined with the following results (OFFICIAL AIRLINE GUIDE, June 1975; all fares were net of taxes):

$$F = 10.755 + .111 M \quad (R^2 = .811)$$

In twenty-three of these markets commuters competed with local service or trunk carriers, and in such cases commuters typically match the local service or trunk tariff. In those thirty-one markets in the sample served *only* by commuters, the result was:

$$F = 9.45 + .122 M \quad (R^2 = .896)$$

I am indebted to Leroy Laney for collecting this data and performing the regressions.

⁵¹ Predatory behavior under deregulation is unlikely because it would fail due to free entry. [This contrasts with the present circumstance where predatory service competition stands some chance of success, since the Board can be relied upon to constrain (re)entry.] Cf. Hamilton & Kawahara, *Predatory Nonprice Competition: The Case of Hawaii Interisland Air Transportation*, ANTITRUST LAW AND ECON. REV., no. 1 at 83-97 (1974).

rangements. This problem, I believe, is overstated. First, the vast majority of agreements now filed at the Board do not receive prior immunity.⁵² Secondly, in testimony before Senator Kennedy's Subcommittee, the Justice Department stated that under removal of antitrust immunity the carriers would have little to fear with respect to non-anticompetitive agreements such as interlining, joint maintenance, and the like.⁵³ If it did appear that the antitrust laws would be too constraining (for example, carriers appeared to be too risk-adverse), it might be desirable to grant the Board *very limited* power to grant antitrust immunity, under *very strict* standards.

8. *Under deregulation, the adjustment process would be traumatic.* Immediate and total deregulation would probably mean a very painful adjustment process. Carrier management would have to go through a learning experience and might make many mistakes. For example, the concurrent route award system causes a "run to the courthouse" type of behavior due to the existence of monopoly rents.⁵⁴ Without regulatory barriers on entry, carrier myopia might lead to excessive entry and cause a difficult "shaking out" period.

Such transitional difficulties could be minimized, however, by *phasing* deregulation over time and carefully orchestrating the relaxation of constraints. Such a strategy for reform also has the obvious advantage of assuring deregulation's skeptics that should their fears be grounded, should the performance of the industry worsen, then the "experiment" could be halted or reversed.⁵⁵

THE AVIATION ACT OF 1975 AND ITS EFFECTS ON AIR CARRIERS

As mentioned earlier (and no doubt discussed at length by other contributors to this issue of the *Journal*), the Administration's Aviation Act of 1975 is now before Congress. This bill would allow more entry (of new carriers as well as expansion by existing

⁵² Federal Aviation Act of 1958 § 412, 40 U.S.C. § 1382 (1973) gives the Board very wide latitude in approving intercarrier agreements (e.g., the recently-terminated capacity limitations). Most of these are handled routinely by Board staff, under authority granted by the Board.

⁵³ See a summary of the subcommittee's findings at page 607, *supra*.

⁵⁴ On this see DOUGLAS & MILLER, *supra* note 14, at 117, 118.

⁵⁵ Thus, the design of the decontrol program is extremely important.

carriers), make certain abandonments easier, prevent significantly anticompetitive agreements, promulgate a "zone of reasonableness" for pricing, and place stricter constraints on mergers; it would not, however, compromise safety regulation by the FAA nor would it end the subsidy program.

Since its introduction (and even before), the prospective Act has been the subject of much controversy. Proponents have argued forcefully that the result would be lower fares, especially in long-distance, high-density markets. With the public's perception of lower fares in comparable non-CAB-regulated markets (for example, in California and Texas), this argument has been difficult to counter. On the other hand, critics of the proposal have argued with equal force that while *some* consumers might realize lower fares, others, perhaps the majority, would experience fare increases and/or a loss of service. These issues were addressed briefly above. It is instructive, however, to take note that the major critics of the proposal are existing carriers and their representatives (or people who depend upon them), and the extent of their opposition is pretty much a function of what they feel they stand to lose if the proposal were enacted. While no one can guarantee that reform would result in no losers, it should be kept in mind that the Aviation Act of 1975 is specifically designed to give existing carriers an opportunity to adjust their operations and adapt to a new regulatory environment *before* the proposal's major provisions became fully effective. For this reason (and others), the predictions of the doom-sayers are, in my judgment, grossly overstated.⁵⁶

It is almost universally accepted that the demand for air travel is positively related to the general state of the economy. In technical terms, air travel has been found to be a "superior good," meaning that for a given rate of increase (decrease) in aggregate economic activity, the rate of increase (decrease) in air travel will be even greater. Statistical studies show, in fact, that the (percentage) response in air travel demand is about double the (percentage) change in economic growth. While in many cases actual experience does not bear them out, experts are predicting a strong economic recovery and real growth of approximately five percent an-

⁵⁶ For more detail on the discussion in the remainder of this section, see Miller, *Effects of the Administration's Proposed Aviation Act of 1975 on Air Carrier Finances*, TRANSPORTATION J. (forthcoming).

nually through the remainder of this decade. This means that if real costs (and presumably real air fares) do not rise, air travel should grow approximately ten percent per year.⁵⁷

Aside from the question of growth, probably of most concern is whether reform would lead to a greater or lesser equilibrium stock of airline investment. In other words, would reform lead to lower-than-normal industry profits (that is, excess investment) or higher-than-normal industry profits (that is, a "shortage" of industry investment)? As it turns out, this question is too close to call. While most expect fares to fall, the effect on (equilibrium) industry investment depends on whether demand is sufficiently price elastic so that the rise in break-even load factor is exceeded by the rise in actual load factor. The evidence suggests that if demand price elasticity (in absolute value terms) is greater than approximately 1.3, then the industry would earn higher profits as a result of an immediate price reduction, whereas if it is less the industry would earn lower profits. The Board's figure of 0.7 is perhaps the best-known estimate, but it contradicts staff estimates, which center around 1.3, and most academic studies, which range from just in excess of unity to well over 2.0. As a matter of perspective, everything else equal, a sixteen percent reduction in average fares would yield losses of approximately \$660 million annually if the Board's estimate is correct and profits of approximately \$675 million if price elasticity is 2.0.

Thus, the reduction in fares expected from regulatory reform would not be likely in and of itself to have much of an impact on industry (or individual carriers') profits.⁵⁸ In any event, the major provisions of the Act would not become fully effective for five years, and, if projections of economic growth and estimates of demand income elasticity are correct, air travel should be approxi-

⁵⁷ The most rapidly rising component of cost—fuel—appears to have tapered off in its nominal rate of increase.

⁵⁸ While the effects on individual carriers could vary, the most important consideration with respect to the impact on individual firms would appear to be the projection of *industry* profits. The reason is that the differential carrier impacts would show up primarily in terms of excess (or insufficient) flight equipment. When the industry is earning normal returns on investment, flight equipment can be bought and sold at rates reasonably consistent with book value. Thus, even though the industry may not be able to expand or contract capacity quickly, individual firms are indeed in a position to do so.

mately fifty percent higher by then.⁵⁹ In sum, the argument that the Administration's proposal would force a substantial portion of the industry into bankruptcy strains credibility. If under this program a carrier (or carriers) went into receivership, it would have to be credited to that carrier's (or those carriers') inefficiencies—not to a disruption precipitated by the Aviation Act of 1975.

CONCLUSION

The prospect of substantial reform of domestic airline regulation has never been better. Academics have long urged decontrol, and for the first time their arguments are being taken seriously by those in authority.

The keys to success, in my judgment, are three. First, this must remain a nonpartisan issue. Just as economists from left to right support decontrol, regulatory reform should appeal to Democrats and Republicans. Secondly, policy makers must take a long-run view of regulatory policy. While transitional problems are apparent and immediate, one must not lose sight of the longer-term benefits. Finally, there must be a willingness on the part of the "deregulators" to accept a phasing in of the program over time as well as a willingness on the part of deregulation's skeptics to go along with a meaningful experiment. In my judgment, the proposed Aviation Act of 1975 meets this test.

⁵⁹ Of course, the carriers would have several years to make adjustments in capacity even if travel did not grow.

