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Competition, Concentration, and Consumer Welfare in the Deregulated Airline Industry

Michael T. Heaney

"Turbulent" is the best way to describe the airline industry of the 1990s. Since deregulation in 1978, terms such as "air wars," "hubs," "frequent-flyer," and, of course, "Chapter 11," have become a familiar part of airline discussions. Long gone are the days of a bloated, unresponsive, complacent industry that must verify its every move with Washington bureaucrats. Although the level of uncertainty and instability in the airline industry has increased since the days of government regulation, most observers agree that deregulation has had some success (Sandler 1988, p. 332). However, it remains an open question as to whether or not the deregulated airline industry is headed in the direction of the public interest.

This article will explore and evaluate changes that have taken place in the airline industry since deregulation. The first section takes a step back to review the history of regulation and the reasons policymakers chose to deregulate the industry. The second examines empirical data concerning concentration and contestability. The third and fourth sections consider the dynamics of the industry in the context of structural changes and strategic developments, such as hubs and frequent-flyer programs. Finally, recommendations are made for changes in public policy to improve consumer welfare.

REGULATION AND THE RATIONALE FOR DEREGULATION

Airline regulation began in 1938 with the passage of the Civil Aeronautics Act. Under this act, the Civil Aeronautics Board (CAB) was established as the primary regulatory agency for the airline industry. The CAB was charged with the responsibility of ensuring safety, economic stability, and industrial development. Broad-based authority was granted to the CAB because of the belief that a healthy airline industry was a vital component of any national transportation infrastructure. The CAB's jurisdiction included control of entry,

service routes, and rates. Firms seeking entry into the industry were required to obtain certification from the CAB. Existing carriers were required to seek the approval of the CAB in order to provide service on any given route. These guidelines allowed the CAB to determine the number of firms in the industry as a whole as well as on specific routes. In particular, the CAB determined the type of service carriers could provide (i.e., mail versus passenger service) and held broad discretion over rates. The CAB set maximum and minimum rates for service, ruled if a fare was "unjust" or "unreasonable," and provided special exceptions or rate reductions for mail carriers (Brown 1987, p. 49).

The regulatory structure existing under the Civil Aeronautics Act allowed the CAB to have complete control over the structure and conduct of the airline industry. Analysts asserted that this regulation was only a step away from central planning and that it sheltered the industry from the discipline of the marketplace. This regulatory framework was to remain basically unaltered for the next forty years.

Historical perspective reveals that stringent regulation of the airline industry was typical of the federal government's response to most industries during and immediately following the Depression: "Regulate. If that does not work, regulate more." This philosophy was legitimized by the prevailing attitude that it was the responsibility of government to keep big business in check. By the early 1970s, a formidable regulatory framework had developed across the United States. This framework extended from airlines to banking, from consumer protection to the environment and other areas.

Regulation was not viewed as a problem as long as the economy remained healthy. However, the emergence of serious economic woes in the early 1970s turned conventional wisdom against regulation. Critics protested that regulations intruded upon the ability of private enterprise to operate efficiently (Brown 1987, p. 29). Many economists argued that a regulated airline industry was the equivalent of an "inefficient cartel" (More 1986, p. 1). Regulation had become a way of protecting existing firms and prohibiting the entry of new firms, seriously undermining the public interest. One study estimated that the loss to consumers from regulation was approximately one billion 1977 dollars per year (Keeler 1978, p. 157).

Furthermore, proponents of deregulation argued that incremental changes in the regulatory framework would not be sufficient to solve the problems faced by the industry. Economist Roger Noll suggested that regulation was an error by design: the mere existence of regulation resulted in "a persistent tendency to make socially undesirable policy" (1971, p. 3). According to Noll and his supporters, the most appropriate course of action for the government was to redefine its role completely with respect to the industry, rather than make minor changes in the way the industry was regulated.

Alfred Kahn and other prominent economists believed that enforcement of antitrust law, taxes, subsidies, and other market incentives were better mechanisms of oversight than regulation. Econometric studies conducted by Douglas Caves and others concluded that significant economies of scale did not exist beyond small air carriers (Caves 1962; Eads et al. 1969). On this basis, economists predicted that deregulation would not lead to a substantial increase in the concentration of the industry (Moore 1986, p. 2). Moreover, Steven Morrison and Clifford Winston estimated that deregulation would result in a substantial improvement in consumer welfare (1986).

The political winds eventually responded to calls for deregulation. In October 1978, President Jimmy Carter signed the Airline Deregulation Act. This legislation was intended to increase competition and improve efficiency through a gradual "phase-out" of domestic rate and route regulation. After a series of measures to reduce its authority, the Civil Aeronautics Board was terminated. Thus, the airline industry became the first industry to be transferred from nearly total regulatory supervision to the discipline of the marketplace (Brown 1987, p. 3).

CONCENTRATION AND CONTESTABILITY

As the airline industry evolves toward a new equilibrium position, policy-makers should be concerned with the level of market power held by airline firms. Several factors affect the nature of this evolution. Among these are the level of concentration, the contestability of markets, and the ability of a firm to mark price up above marginal cost. Observers have cited the exit of firms that entered the industry following deregulation as an indication that market power is increasing, or will increase substantially in the future (Kahn 1988, p. 318)

The composition of the airline industry has shifted substantially since deregulation. In 1978, the industry consisted of 17 major carriers (see Table 1). Deregulation brought a wave of new carriers including American West, New York Air, Midway, Muse, People's Express, and others. After a series of entries, mergers, and bankruptcies, most of these firms have exited the industry. Intense rivalry both created success stories (e.g., U.S. Air) and eliminated long standing carriers (e.g., Eastern). Of all the carriers that entered the industry, only American West remains.

Empirical evidence indicates that aggregate concentration has increased substantially since deregulation (see Table 2). This trend is identified by tracking the concentration ratio, which is a measure of the percent of market share held by the top four or eight firms in the industry. Immediately following the Airline Deregulation Act, a small decrease in concentration occurred with the entry of new firms. The four firm concentration ratio fell from .562

TABLE 1
Airline Industry Composition 1978 vs. 1992

Rank	1978 Carriers	Domestic Passenger Miles (in millions)	Percent Total Miles (1978)	1992 Carriers X=still operating
1	United	41.4	21.5	X
2	American	25.5	13.2	X
3	Delta	22.9	11.9	X
4	Eastern	20.8	10.8	
5	TWA	18.0	9.3	X
6	Western	9.9	5.1	
7	Pan American	9.0	4.7	
8	Continental	8.6	4.4	X
9	Braniff	7.3	3.8	X
10	Republic	6.0	3.2	
11	Northwest	5.0	2.6	X
12	US Air	4.2	2.2	X
13	Frontier	2.4	1.2	
14	Texas	1.7	0.9	
15	Ozark	1.6	0.8	
16	Piedmont	1.5	0.8	
17	Southwest	0.6	0.6	X
—	AmericanWest ^a	—		X
—	Others (6)	7.0	3.6	(4)
<i>Totals</i>		191.6	100.0	

SOURCES: BAILEY ET AL 1985, P. 216; BORENSTEIN 1992, P. 64;

^aENTERED THE INDUSTRY IN 1983

TABLE 2
Domestic Airline Industry Concentration Since Deregulation

Year	Total Carriers ^a	CR4 ^b	CR8 ^c
1978	23	.562	.811
1982	24	.542	.804
1987	17	.648	.865
1990	13	.615	.905

SOURCE: BORENSTEIN 1992, P. 47.

a Includes all interstate domestic carriers

b The sum of the market shares for the largest 4 firms

c The sum of the market shares for the largest 8 firms

to .542, and the eight firm concentration ratio dropped from .811 to .804. However, many of these firms have been driven out of the market. Since 1978, the total number of carriers has fallen from 23 to 13. Simultaneously, the four firm concentration ratio and eight firm concentration ratio have risen from .542 to .615 and from .804 to .905, respectively.

Although it is not an infallible measure, the concentration ratio indicates which carriers control large shares of the industry. There is no absolute standard to be used in determining if an industry is "too concentrated"; rather, it is important to consider the trend in concentration. An increase of five or ten percent is significant, since it represents a transfer of market power in the direction of the largest firms. Table 2 reveals that changes of this magnitude have been observed in the airline industry since deregulation.

Concentration has increased, not only in the aggregate, but also on specific routes. Severin Borenstein estimated that if the markets for direct trips were examined carefully, a steady increase in concentration through the period 1984-1990 would be noted (1992, p. 49). Table 3 indicates that the Herfindahl Index on direct routes increased from .590 to .632 between 1984 and 1990. The increase in concentration in the aggregate and on individual routes supports the view that the airline industry is evolving toward substantial monopoly power. These changes can be partially explained by the development of hub-and-spoke systems, airport dominance, and increased merger activity, which will be discussed later.

Economists have argued that concentration is only one element influencing firms' market power. The existence of potential entry is also relevant. If firms know that monopolistic pricing will encourage the entry of competitors, they are likely to avoid monopolistic behavior. This theory was advanced by Joe Bain and is referred to as the "Contestability Hypothesis." As Bain bluntly

TABLE 3
Herfindahl Index for Direct Trips (Market Distance in Miles)

YEAR	0-200	201-500	501-1000	1001-1500	1500+	ALL
1984	.601	.598	.601	.581	.536	.590
1987	.691	.648	.612	.587	.532	.620
1990	.612	.641	.672	.625	.536	.632

SOURCE: BORENSTEIN 1992, P. 49.

puts it: "[T]o argue that sellers in concentrated industries deliberately disregard the consequences of threatened entry would try to picture them as unbelievably stupid" (Bain 1949, p. 452). The implication of this hypothesis is that only the potential of, rather than the actual existence of, competitive firms is a necessary condition for the maximization of social welfare.

The airline industry has been cited as the classic example of an industry that is contestable (Baumol, Panzar, and Willig 1982, p.7). The existence of contestable markets would provide a theoretical rationale for policymakers to disregard increases in concentration. Even if levels of concentration are high, contestable markets would provide the conditions necessary to serve the public interest. Conversely, a reduction in a market's contestability would provide rationale to pay increasing attention to the level of concentration.

Morrison and Winston set out to test econometrically the existence of perfectly contestable and imperfectly contestable markets in the airline industry (1986). Their results indicate that airline markets are not perfectly contestable, but are imperfectly contestable. They concluded that potential entrants do serve a disciplining function on the market, but this effect has grown smaller in recent years.

The result of Morrison and Winston's analysis should be of concern for policymakers. Decreased contestability implies that firms do not view potential entrants as a real threat. Therefore, existing firms will be inclined to keep prices high. An increase in barriers to entry is the main explanation for the decreased contestability of the industry. The development of economies of scale, the large fixed cost of computer reservation systems, and the development of market loyalty-inducing devices have contributed to the raising of these barriers. The following sections provide a discussion of these trends.

HUBS, MERGERS, AND AIRPORT DOMINANCE

Increases in the level of market power in the airline industry are a function of changes in the structure of the industry. Perhaps the most noticeable change has been the widespread development of "hub-and-spoke" networks. Prior to deregulation, firms had little control over which routes they flew. In order to receive a permit to service a particular route, airlines were required to show that entry was required for the convenience of consumers. Therefore, considerations of "least cost" were not relevant in scheduling decisions.

Deregulation allowed firms greater freedom in scheduling routes. This factor encouraged firms to seek strategies for minimizing costs. The emergence of "hub-and-spoke" represents such an attempt at cost minimization. The strategy is to direct travelers through spoke routes into a hub. At the hub passengers may change planes and continue on to their destinations.

The hub-and-spoke approach is based on the rationale that it is less costly (and therefore more profitable) to provide service to two destinations simultaneously, than to provide them separately. The economic calculus is simple.

$$\text{If } C(A, 0) + C(0, B) > C(A, B)$$

then the hub-and-spoke approach is more efficient than direct flights. This is

the case where $C(A,0)$ is the cost of providing service directly to city A, $C(B,0)$ is the cost of providing service directly to city B, and $C(A,B)$ is the cost of providing service to both cities with a stop at the hub city. Hub-and-spoke networks allow firms to take advantage of economies of scope and scale in aircraft size, and are thus a manifestation of economic efficiency (Bailey and Williams 1988, p. 174).

The expansion of the hub-and-spoke system is linked to deregulation. Western Airlines' route structure before and after deregulation provides an illustration of why this is the case. Prior to deregulation, Western's route structure was inefficient and scattered (Figure 1). With deregulation, Western was able to lower costs by directing most of its flights through its hub in Salt Lake City (Figure 2). Similar changes have taken place in the route structure of every major domestic airline. The widespread use of hub-and-spoke structures has led to a fundamental change in the industry. Therefore, this system has become the framework within which all considerations of policy toward the airline industry must be based.

One consequence of hub-and-spoke networks has been the emergence of an "airport dominance effect." This effect is one factor contributing to increases in regional and route concentration. Airport dominance exists when a significant advantage is extended to an airline at its major hub cities. One source of this dominance is the airline's disproportionate control of slots (the right of an airline to have an airplane take off or land at a specified time on a specified day) and gates (which are physical assets such as buildings and gateways). The possession of a disproportionate number of these assets allows

FIGURE 1: PRIOR TO DEREGULATION

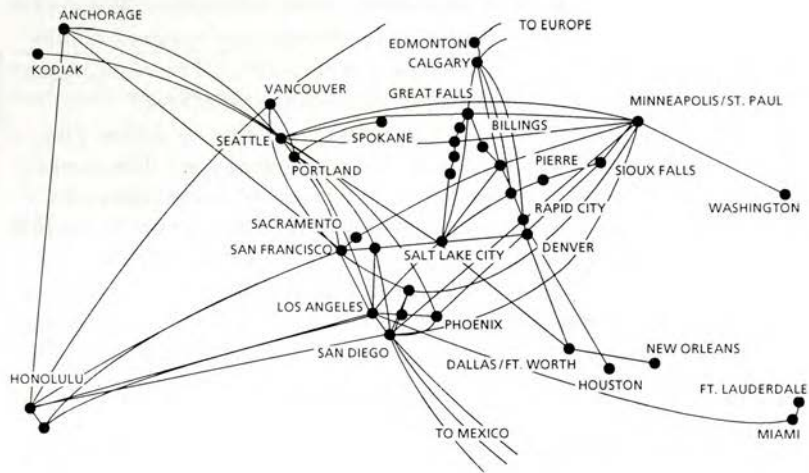
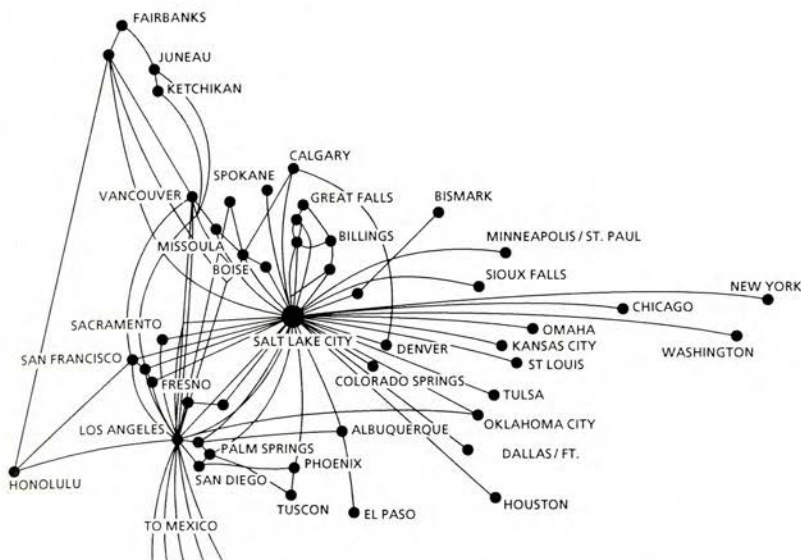


FIGURE 2: AFTER DEREGULATION



a firm to acquire market power from the inelastic nature of demand for these slots. Since other firms which use the airport will occasionally need to use extra slots and gates, non-dominant firms will be forced to appease the dominant firm on other issues. These issues include the sale or lease of facilities, the entrance of new firms into the airport, and the expansion of the airport to accommodate increases in demand (Borenstein 1989, pp. 347-48). Once a firm establishes a city as its hub city, it can expect to see increases in market share in the future. The most likely result of the further development of hubs is an increasing tendency toward concentration in regional markets.

Another factor contributing to structural change in the airline industry has been the position of the federal government in the enforcement of antitrust law. The tendency to "look the other way" on marginal mergers has been the trend throughout the economy, especially in the airline industry. Although mergers have not had an overwhelming effect on concentration nationally, they have had an appreciable effect regionally. Their greatest impact has been on small airports with few carriers (Kahn 1988, p. 318). Unfortunately, mergers have led to higher prices and decreased capacity at these airports.

Northwest's merger with Republic Airlines and Trans World Airlines' (TWA's) purchase of Ozark Airlines in 1986, provide good examples of the effect mergers can have on service. As a result of the mergers, Northwest and

TWA were left with more than seventy-five percent of the market at the hub airport where the merging airlines had competed (Borenstein 1990, p. 403). This led to a significant change in the price structure at these airports. Before the mergers, these hubs charged prices about eleven percent below the national average. However, by 1987 air fares had risen to levels that were approximately the same as other hubs (Borenstein, 1990, p. 403). An explanation for this phenomenon is that the mergers simultaneously increased concentration and decreased contestability of the markets. These results support the contention that the Clinton administration should step up its enforcement of antitrust law.

INNOVATIONS IN MARKETING AND TECHNOLOGY

Prior to deregulation, firms had little motivation to use intensive marketing techniques. Rates and routes were set by the CAB, so airline firms were limited in their ability to differentiate their product. Lavish first class arrangements, gourmet meals, and free alcohol were about as far as firms could go in distinguishing themselves from other airlines. With deregulation, however, many of these "perks" have been eliminated, and competition has focused on rates and routes.

Frequent-Flyer Programs (FFPs), Travel Agent Commission Override programs (TACOs), and Computer Reservation Systems (CRSs) are examples of this form of change. These market loyalty-building devices allow a firm to disseminate information and provide incentives biased toward its services. Unfortunately, such incentives may lead to a reduction in consumer welfare, since firms possess information consumers do not possess. As in the case of hubs, these marketing devices have increased aggregate concentration and reduced the contestability of the industry by establishing substantial barriers to entry.

Frequent-Flyer Programs are the most well known and successful of the recent marketing innovations. FFPs can be conceptualized as a legal form of tying arrangement. As Borenstein explains, "by tying travel today to future travel on 'any route we serve in the United States,' the carrier creates an option on future travel that increases in value as the variety of points served by the airline from the FFP member's home airport increases" (1991, p. 1242). This marketing device has been successful for firms, allowing them to attract repeat business, especially from business travelers (Borenstein 1989, pp. 345-46). This success is a function of the nature of the payoff: an increasing marginal bonus is accompanied by a larger purchase volume.

FFPs may allow airlines to increase profits artificially. They function as a form of quantity discounting (sometimes referred to as second degree price discrimination). The customer is provided an incentive to concentrate her

purchases with one or just a few companies. The accumulation of frequent-flyer miles may induce consumers to stay with a more expensive airline in order to protect the FFP investment.

Although the consumer may believe he is better off as a result of accumulating frequent-flyer miles, in the long run this may not be the case. The value of "free" tickets received from frequent-flyer points is almost always less than the value the consumer originally put on acquiring the points. "Free" tickets, for example, are often subject to "blackout dates" which prevent their use during peak periods. Oddly enough, the majority of FFP miles are never "cashed in" for tickets (Borenstein 1992, p. 58).

Nevertheless, FFPs bias consumer purchases toward the airlines with the best frequent-flyer program, rather than the lowest price. This bias may result in a reduction in consumer welfare if frequent-flyer miles are of less value than consumers anticipated. Moreover, if FFPs keep prices high, all consumers will feel the effects. In many cases, airlines such as American, United, Northwest, and US Air may be using additional frequent-flyer benefits as a substitute for price competition (Hirsch 1993, pp. B1-2).

Besides increasing pricing power, FFPs create a barrier to entry. New firms may find it difficult to enter the industry because of the time required to establish customer loyalty. Having to face the well-developed frequent-flyer programs of competitors may make entry an impossibility.

The use of FFPs is also affected by the principal-agent relationship. A business traveler (or agent) making the purchase of an airline ticket is often not the same as the business firm's owner (or principal). Since the business traveler will not bear the cost of the ticket, but will receive the benefit of the frequent-flyer miles, there is every incentive to choose the airline with the most beneficial frequent-flyer program rather than the airline with the lowest fare. Borenstein reports that "though [business] firms can monitor FFP bonuses and require that they be used for business travel, very few firms actually do this" (1991, pp. 1243-44). Furthermore, even if a business firm forced its agent to be concerned with the potential cost difference, inefficiency would not be avoided since FFPs would still function as a hidden business perk. Hence, inefficiency is the inevitable consequence of FFPs: revenue will be directed toward firms that are able to manipulate the market, not necessarily the firms that are able to keep costs down.

Travel Agent Commission Override programs (TACOs) are another form of market loyalty-inducing device that has contributed to increased concentration. They are sometimes informally referred to as "Frequent Booker Programs." Essentially, TACOs are contracts between the airline and travel agent. If more than a certain percentage of the travel agent's bookings are with the airline, then the travel agent receives a bonus. Higher percentages

result in higher marginal bonuses. Again, the increasing marginal benefit received creates the same problem as with FFPs; travel agents develop an artificial loyalty to the airlines that provide the most bonuses.

Exploitation of the principal-agent relationship is even more insidious in the case of TACOs. These programs provide an incentive for travel agents to present partial or biased information to the consumer. Given the opportunity, the travel agency will most likely schedule the passenger on the airline yielding the highest bonus. The detection of this activity is unlikely due to the customer's difficulty in obtaining the information necessary to evaluate the quality of service provided by the travel agent. Borenstein notes that this "asymmetry in information costs is much of the reason that travel agents exist to begin with" (1989, p. 347).

The use of TACOs represents a potentially serious distortion in the market process. TACO bonuses have their most significant impact on large business customers who receive quantity discounts for operating their own "in house" travel agencies. Furthermore, use of travel agents has become more commonplace, compounding the problem. Prior to deregulation, only about fifty percent of domestic tickets were purchased through a travel agent. Since deregulation, the level of ticket purchases directly from travel agents has risen to eighty percent (Borenstein 1991, p. 1240). This increase serves to magnify the impact of distortions due to biased information because more travelers are depending on travel agents to represent their interests than before deregulation.

The development and expansion of Computer Reservation Systems (CRSs) has been the main technological innovation that allows certain airlines to obtain a substantial information advantage. CRSs allow firms to act as near perfect price discriminators. According to *The Economist*:

A sophisticated CRS does not simply book passengers; it also carries out "yield management." The systems are programmed to "know" how many seats to sell in advance at a discount on, say, a 9 p.m. Friday departure from Minnesota, and how many to hold in order to sting late booking passengers for the full fare. The formula could be completely different for the same flight on a Thursday. The idea is to extract every last cent of revenue from every seat (1991, p. 82).

Such price discrimination serves to reduce consumer welfare substantially.

CRSs are exploitative of the asymmetric nature of information costs in making airline reservations. While all major airlines may own Computer Reservation Systems, it is not cost efficient for them to have one at every major airport. Although the control of ticket processing may be relatively evenly distributed across firms on a nationwide basis, it is possible for one carrier to have almost total control over a particular geographic region

(Bailey and Williams 1988, p. 174). The result of large regional advantages is the dissemination of biased information. There have been some attempts to regulate CRS systems, but these efforts have either been unsuccessful or the results are indeterminant (Borenstein 1989, p. 347; McGinley 1992, p. A8).

CRSs have been cited as a major barrier to entry in the industry. The cost to a firm of purchasing its own Computer Reservation System is high enough to deter many potential entrants. Having to depend on the CRS of a competitor may be just as bad. The required payment of a "booking fee" to airlines with CRSs may discourage the entry of a firm to a particular market (Borenstein 1992, p. 65).

The impact of these innovations may be felt more strongly when airport dominance is also present. Airport dominance gives the firm an advantage in capturing travel originating at the hub port. If firms are able to use market loyalty devices to connect travel today with travel in the future, then passengers are likely to purchase tickets today on the airline they are most likely to use in the future, rather than the firm that has the lowest price today. It is probable that the airline of choice will be the one with the most travel destinations directly from the airport closest to the traveler's home. Stated another way, the traveler will most likely purchase tickets from the firm with a hub nearest to her home.

Airport dominance is synergistic with market loyalty-inducing devices. Travelers choose an airline, and then have more of an incentive to choose it again in the future. Additionally, if travel agents surrounding a particular airport prefer one computer reservation system to another, the bias in the market is compounded. Consequently, an increase in concentration and a decrease in contestability are the likely results of the expansion of computer reservation systems.

TOWARDS AN ACCEPTABLE SOLUTION

Several elements will be important in guiding the airline industry toward a position consistent with the public interest. The first step is for policymakers to acknowledge that the "hub-and-spoke" system provides the basic framework within which all policies should be considered. The real impact of the "hub-and-spoke" system has been to increase concentration and airport dominance. The Justice Department should evaluate the level of concentration on routes when considering the approval of mergers in small markets. More generally, the Clinton administration should consider a more activist approach to antitrust policy in order to mitigate the effects of concentration. It would not be unreasonable to set a maximum level of concentration (say, .600) and then to deny any proposed mergers that would violate this standard.

The second element in designing effective public policy is to keep a dynamic, rather than static, orientation. The industry will continue to change rapidly since there is a great deal more rivalry in the industry than there once was. Marketing devices such as FFPs, TACOs, and CRSs illustrate the airlines' innovative capacities. Consequently, policymakers must not only consider where the industry is, but also where it is going.

A third element in developing public policy should be the use of market incentives. Taxes, subsidies, grants, and other market-based systems are generally more effective than the "thou shall not" approach of regulation. Firms respond positively to market incentives because they hit firms at the profit margin. While not every manager will fully comprehend or respond to detailed regulations, every firm understands the importance of black ink on the bottom line.

Taxing the benefits of FFPs and TACOs would be a useful application of this principle. Taxation would induce airlines, travelers, and business firms to consider the benefits and costs of these programs more seriously than they do at present. Taxes would probably reduce the use of FFPs and TACOs and lessen their distorting effects on relevant markets. In a sense, taxation would help to compensate society for the reduction in consumer welfare that results from increased concentration.

Other possibilities include the awarding of matching grants to entering firms to assist them in establishing competitive computer reservation systems. Similarly, tax credits or subsidies could be granted to firms which modify presently existing CRSs to eliminate bias. These incentives would make it more profitable in the short run for firms to reduce their own market power, thus improving consumer welfare in the long run.

CONCLUSION

Evaluation of changes in the airline industry should not be based solely on the condition of the industry today. Indeed, increased market power, mergers, bankruptcies, and other developments have not yet substantially harmed consumers. Deregulation stimulated a more efficiently operated industry that better serves the public interest. However, the direction of developments in the industry should concern analysts. If market power concentrates in the hands of only a few carriers, consumers may suffer. The objective of public policy should be to prevent such a development.

Some legislators argue that the proper course of action in dealing with these problems is to return to "pre-1978 style" regulation. However, the solution to the problems of the industry cannot be found by reverting to the mistakes of the past. The airline industry had become "fat and lazy" behind the wall of regulation. The failure of regulation should be seen as a clear

signal not to return to it as a means of controlling the airline industry.

Instead, market based incentives should be used to discourage monopolistic behavior on the part of airline firms. Incentives provided by taxes, subsidies, grants, and other means are superior to regulation as a mechanism of control. Instead of attempting to control every aspect of a firm's operation, incentives appeal to the firm on the bottom line. They make socially undesirable behavior more costly and socially beneficial behavior more profitable. In the final analysis, this approach is most likely to steer the airline industry in the direction of the public interest.

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